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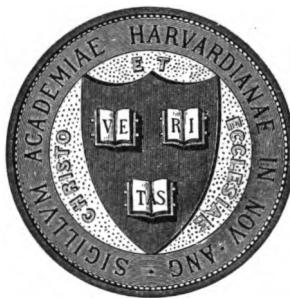
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THE
IOWA ORNITHOLOGIST.
FOR THE
STUDENT OF BIRDS.



Volume III.

SALEM, IOWA.

DAVID L. SAVAGE, PUBLISHER.

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"Go forth under the open sky,
And list to Nature's teachings."

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Turkey Vulture.
Cathartes aura.

The Iowa Ornithologist.

Vol. III.

JANUARY, 1897.

No. I.

THE IOWAN RAPTORES.

By CHAS. R. KEYES, PRESIDENT IOWA ORNITHOLOGICAL ASSOCIATION.

Paper read before the Second Congress of I. O. A.

HERE seems to be a general opinion prevailing, especially among farmers and sportsmen, that all birds of prey do more harm than good, and are, consequently, worthy of death wherever and whenever one may have an opportunity to inflict it. If this is not the case, then the actions of these classes of men are, in the great majority of cases, opposed to their beliefs. It is seldom indeed that a chance to kill a hawk or an owl is thrown away by the average sportsman or farmer's boy. The experience of the writer, such as it has been, has, as yet, failed to find a farmer who was unwilling to have nests and eggs of these birds taken from his premises. On the contrary, information is gladly given as to the whereabouts of the nests of these species in the hope that a new crop of the "pests" may be avoided. It might be added here, by the way of parenthesis, that the farmer's "benefactor" generally failed to give in return the information that the same pair of birds would, in a few days, have another nest under process of construction in the same or immediate vicinity.

It will be the object of this discussion to try to prove or disprove the value to the farmer of raptorial birds, confining our study for the sake of narrowing down the subject, to the raptorial birds either resident, migratory, or casual to the state of Iowa. It is believed that the following list of thirty species is complete for this purpose, and it will be our object to consider briefly each of these species by itself and try to reach a conclusion as to whether, on the whole, it is a benefit or a detriment to agricultural interests.

The influence of birds of prey on agriculture is in a large per cent of cases indirectly and only to be ascertained by the study of smaller birds, insects and smaller mammals destroyed by them for food purposes. It will, then, be necessary to assume that certain small animals are a benefit to agriculture and that others are obnoxious. This will be allowed without much difficulty. It will, in general, be conceded that our small field birds, as thrushes, sparrows, wrens, warblers, flycatchers, larks, etc., are of direct or indirect benefit to agriculture; and that many, probably most of our small field mammals, as field mice, rats, ground squirrels, gophers, rabbits, shrews, etc., are of direct detriment to it. In our discussion of the merits and demerits of the following species of birds of prey it will be necessary to keep in mind this general destruction.

(1) — *Cathartes aura*. TURKEY VULTURE.

THIS bird influences agriculture mainly through its office as a scavenger and in this capacity doubtless performs a kindly service in the removal of all sorts of carrion, which remaining, would produce disease both in man and in

beast. This service is so important in some states that the bird has justly been protected by law. The argument has sometimes been brought against it that this bird will eat animals which have died of some disease, as hog cholera, and communicate it to pastures or pens containing healthy animals, and in this way sometimes spread the disease throughout a large community. This argument is not well substantiated, however, and indeed it is doubted whether the disease in question is really infectious. On account of its weak beak and talons this vulture can rarely secure live prey. Its food consists of any dead mammals or fish, eaten when fresh preferably, but when decomposed in cases where the animal's skin is too thick to be torn open when fresh. In very rare instances this bird has been known to kill and eat small lambs. The Turkey Vulture may be classed as common in Iowa.

(2)—*Elanoides forficatus*. SWALLOW-TAILED KITE.

THIS kite can scarcely be said to be common in Iowa, but occasional pairs ascend the Mississippi each spring and nest in the state during the months of May and June. It is doubtful whether this species ever kills a bird of any kind, but on the contrary it seems to be perfectly harmless and beneficial. Its food consists principally of various kinds of reptiles, beetles, grass-hoppers, crickets, small frogs, worms, lizards and tree toads.

(3)—*Ictinia mississippiensis*. MISSISSIPPI KITE.

THE distribution of this bird is very irregular outside of the Southern Mississippi region and the Gulf States. It may be accounted only as casual or irregular to Iowa. Like the Swallow-tailed species, its food consists of insects, small snakes, lizards and small rodents. It is not known to destroy birds, at least not habitually.

(4)—*Circus hudsonius*. MARSH HAWK.

THE Marsh Hawk or Hen Warrior so called, is a common summer resident in Iowa, breeding on the ground in meadow or timber lands during May and June. The bird has been thought to be destructive to wild birds and the farmers' fowls, but observation does not show this supposition to be generally true. It passes most of its time in the fields and low timber, watching for food gophers, meadow mice, ground squirrels, and other small rodents, locusts, grass-hoppers, frogs and in some localities the large destructive crickets (*Anabus simplex*). From an economic standpoint this species is certainly beneficial, and instead of persecution should have protection.

(5)—*Accipiter velox*. SHARP-SHINNED HAWK.

THIS little hawk is a fairly common and regular summer resident in Iowa, and is one of the species which must be considered as doing more harm than good. It seldom eats small rodents and insects, but on the contrary it lives mostly on small birds, sometimes, however, destroying birds as large as itself such as pigeons, Bob Whites, mourning doves, robins, etc. It is said not to hesitate to help itself to young chickens whenever it can find any.

(6)—*Accipiter cooperii*. COOPER'S HAWK.

COOPER'S HAWK is a common summer resident in Iowa and in appearance (being, however, larger) and in disposition is much like the preceding species. From its far greater numbers, it is even more destructive. This hawk is the worst enemy of the smaller birds generally, and probably does more than all the other hawks combined to reduce the size of the farmers' flock of poultry. It does not appear to destroy reptiles, rodents or insects to any great extent.

(7)—*Buteo borealis*. RED-TAILED HAWK.

THIS is probably the most common hawk in Iowa and is resident here throughout the year. It is commonly called the "Hen Hawk" though this is a misnomer, for the bird very seldom visits the poultry yard. It only receives a great deal of blame which should attach to the preceding species. Its food consists for the most part of gophers, ground squirrels, moles, meadow mice, shrews, rabbits, frogs, toads, crawfish, snakes, lizards and various kinds of insects. The remains of small rodents may always be found in this bird's nest containing young. The Red-tailed Hawk deserves protection rather than having a price set upon its head as has been the case in some states.

(8)—*Buteo borealis kriderii*. KRIDER'S HAWK.

THIS species is only a geographical variety of *Buteo borealis*, a lighter colored race, which is rare in Iowa. Its habits, disposition, and food, so far as known, are identical with the red-tailed species.

(9)—*Buteo borealis calurus*. WESTERN RED-TAIL.

THIS species is also a geographical variety of *Buteo borealis*, and is a dusky or darker colored bird, which is casual to Iowa. Its habits, food and disposition are essentially the same as those of the Red-tailed Hawk. Where prairie dogs, grass-hoppers, and rattlesnakes are found, it is known to make them a part of its fare.

(10)—*Buteo borealis harlani*. HARLAN'S HAWK.

HARLAN'S HAWK, another variety of *Buteo borealis*, is the darkest colored of this species and only casually reaches Iowa from the South Mississippi region. It is not a well known bird, but it seems to differ from the Red-tailed Hawk only in color and in a somewhat more shy disposition.

(11)—*Buteo lineatus*. RED-SHOULDERED HAWK.

THE Red-shouldered Hawk is a common species in Iowa though seldom seen from its habit of keeping itself well out of view in the timber along bottom lands. Its food is of the most humble kind, and is such as will show beyond doubt that the bird is an economic benefit. Dr. C. Hart Merriam, of the Division of Economic Ornithology and Mammalogy, U. S. Department of Agriculture, examined 102 stomachs of the Red-shouldered Hawk during 1887, and found the contents to be as follows: 1 contained poultry; 5, other birds; 61, mice; 20, other mammals; 15, reptiles or batrachians; 40, insects; 7,

spiders ; 8, crawfish ; 1, earth worms ; 1, offal ; 1, catfish, and three were empty. In addition to this list, moles, squirrels, young rabbits, and small snakes enter into its bill of fare.

(12)—*Buteo swainsoni*. SWAINSON'S HAWK.

THIS is a fairly common bird in Iowa. It is of an exceedingly peaceful disposition and seldom kills a bird or makes a visit to a poultry yard unless food should be more than ordinarily scarce. It lives almost entirely on the smaller quadrupeds—squirrels, gophers, rats and mice. It also kills large numbers of insects, and remains of snakes are occasionally found in its nest. In localities where the large black cricket, so destructive to agricultural interests, is found, this hawk is known to make them almost an exclusive article of diet.

(13)—*Buteo latissimus*. BROAD-WINGED HAWK.

THE Broad-winged Hawk is fairly common in Iowa on the average, being quite common in some portions, and being almost lacking in others. It is one of the most beneficial of our *Raptoreas*, seldom committing depredations in the poultry yard, and only rarely killing a small bird of any kind. Its food consists chiefly of harmful rodents, such as weasels, mice, gophers, ground squirrels, shrews, frogs, toads, small snakes, larvae of insects, grass-hoppers, and beetles.

[CONTINUED IN NEXT ISSUE.]

OBSERVATIONS ON THE COWBIRD.

BY DAVID L. SAVAGE.

Paper read before the Second Congress of I. O. A.

WITH what rare pleasure do we watch for the return of the birds, when all nature is awakening into new life! At this season of the year, the gurgling notes of the Cowbird seem to possess a degree of melody. The first scattered flocks arrive during the last week in March or the first week in April, and in a short time are followed by large numbers which scatter almost indiscriminately over the open fields and woodlands, along the streams and marshes. Their superabundance and the presence of more beautiful songsters, soon makes their attempt at singing sink into insignificance.

The Cow bird seems to have a slight preference for pasture lands, where horses, cattle and sheep are grazing; they are continually running about the feet of the animals, sometimes perching on their backs. I have seen as many as six at one time perched on a sheep's back. The insects which accompany the herds form the attraction for the birds.

During the latter part of July until the first of September, adult birds of this species are seldom seen, during these sultry days they either go north or pass their time in secluded places. Early in September flocks may be seen

flying south and by the first of October the most of them have gone, except a few young birds that sometimes remain throughout the winter. I have never noted adult birds here after October.

In the winter of 1892-'93 a flock of perhaps twenty-five young Cowbirds of the year, stayed about a farmer's feed-lot near Salem. Even in the severest weather they were seen feeding in the lot amongst the cattle; when their hunger was satisfied, they retired to the lee-ward side of the barn and nestled close together.

In speaking of the food of this bird, I cannot do better than to quote from a paper of Prof. F. E. L. Beal's, which was read before the Biological Society of Washington, in March, 1896.

He gave the results of an examination of nearly 400 stomachs of the Crowbird, collected in twenty states and the District of Columbia. Every month in the year was represented except January and February, and the food was found to consist of animal and vegetable matter, in the proportion of about 28 per cent of the former to 72 per cent of the latter. Spiders and harmful insects compose almost exclusively the animal food, while weed seeds, waste grain and a few miscellaneous articles make up the vegetable food. The conclusion was reached that this "black vagabond," as the scientific men have termed it,—*Molothrus ater*—*Molothrus*, Gr., vagabond; *ater*, Lat., black,—does much more good than harm and should be protected.

The most remarkable trait in this species is the unaccountable practice it has of laying its eggs in the nests of other birds, instead of building a nest and hatching them for itself. It is a common thing to hear people condemn the Cowbird on account of its parasitic habits.

Wilson says, "What reason nature may have for this extra-ordinary deviation from the general habits of birds is, I confess, altogether beyond my comprehension. Many conjectures indeed might be formed as to the probable cause; but all of them, that have occurred to me, are unsatisfactory and inconsistent. Future and more numerous observations, made with care, may throw light on this matter; till then we can only rest satisfied with the reality of the fact." With the large number of observers that we have today, this still remains an unsolved mystery.

The female commences laying the latter part of April—the 22nd the earliest date I have found their eggs—and I have found fresh eggs as late as the 27th of July. This makes over four months as the breeding season; one female might lay a large number of eggs in this time.

Of the forty-six bird's nests that I have examined the past season that contained one or more eggs of the Cowbird, two were in April, twenty in May, twenty-two in June; two in July, thus showing that in this locality most of the eggs are deposited in May and June. In the forty-six nests, seventy Cowbird's eggs were found; twenty-six with only one egg of the interloper, fifteen with two, two with three, one with four, one with five. More than fifty-five per cent of the nests found only contained one Cowbird egg.

The female Cowbird prepares to find a nest that is just completed and as yet has none of the owners eggs in; here the intruder deposits her egg with confidence that it will hatch first, as ten days will hatch her egg, while twelve or fourteen is required for most eggs of Passeres birds.

If the Cowbird finds it necessary to lay her egg in a nest with other eggs, she often rolls one of the owner's out so that when the mistress returns there will still be the same number of eggs, and probably the exchange will not be noticed. This species has little preference as to the location of the nests in which to deposit her eggs. I have found them from a Prairie Horned Lark's nest, placed by a hill of corn, and a Pewee's nest, on a shelf in an old vacant house, the only entrance being a broken pane in a window, to a Blue-gray Gnatcatcher's nest in the depth of the woods and twenty-five feet from the ground.

Of the forty-six nests before spoken of, fourteen were placed on the ground, ten within two feet of the ground, ten between two and ten feet, and twelve more than ten feet from the ground. I have found twenty-five species imposed upon by the Cowbird: i. e., Robin, Towhee, Vesper Sparrow, Chipping Sparrow, Field Sparrow, Blue-gray Gnatcatcher, Blue-winged Warbler, Yellow Warbler, Worm-eating Warbler, Baltimore Oriole, Orchard Oriole, Pewee, Kingbird, Red-eyed Vireo, Wood Thrush, Indigo bird, Scarlet Tanager, Prairie Horned Lark, Yellow-breasted Chat, Water Thrush, Western Yellow-throat, Oven bird, Meadow Lark, Rose-breasted Grosbeak, and Redstart. The Field Sparrow and Indigo bird are the species that I have found to be most imposed upon by this imposter, possibly because they are the most plentiful of the small birds nesting in my locality.

The only species that has come under my observations which objected to the Cowbird's egg in its nest was the notorious Kingbird.

For a week I made daily visits to an old orchard where a pair of Kingbirds had their nest in one of the old apple trees. I saw the last material brought which completed the home and counted the eggs, one, two, three, but on the morning when I expected to find the fourth when I approached the tree I saw that a stranger was on the nest; I cannot say whether I or the stranger saw the other first. Nevertheless lady Cowbird made short work of slipping off the nest and reaching the nearest woodland, she not even paused to give me a morning salutation as the Kingbird was in the habit of doing. Climbing to the nest, I found three of the Kingbird's eggs and one of the Cowbird's.

Returning in about an hour to see how matters were at the Kingbird home, the female was on the nest and all seemed quiet; but lo, the poor Cowbird egg was not in the nest, nor under the nest, nor could I find it anywhere. Undoubtedly master Kingbird had removed it. He would not allow his beloved mate to be converted into a foster parent.

I have never found a double nest of any of our birds where the owner had built an addition to her nest to cover the Cowbird's egg, although some writers say that this is often done.

A few words about the great variation in the eggs of this species. Of twenty-five eggs in my collection, the average size is .86 x .69 inches; the largest .97 x .78; the smallest .75 x .65. It is a noticeable fact that the eggs of the

Cowbird always resemble the eggs of the owner that are in the same nest. Their smallest egg that I ever found was in a Blue-gray Gnatcatcher's nest; it had very minute markings and actually resembled the Gnatcatcher's eggs. Eggs in the Meadow Lark's, Towhee's and Vesper Sparrow's nests were impossible to tell which were which, except by the differently tinted yolks.

We now come to the most interesting part of the Cowbird question, the discussion. My object in choosing this subject was not that I had anything of special interest, but contrary-wise, on account of my ignorance and the desire to hear the after-remarks of the fellow-members upon this much condemned species.

[THE DISCUSSION WHICH FOLLOWED THIS PAPER WILL BE GIVEN IN FULL IN THE NEXT ISSUE.—ED.]

NOTES ON THE WARBLERS OF JACKSON CO.

BY H. J. GIDDINGS, SABULA.

Paper read before the Second Congress of I. O. A.

IT is not my purpose to give a complete list of the Warblers of Jackson county, but will simply give a few notes on such species as I have observed during the present season. These notes all refer to the eastern part of this county, which is also the most eastern point of the state, and about the center north and south.

Mniotilla varia. BLACK AND WHITE CREEPER.

A COMMON migrant, arrives in last of April. The bulk go further north but a few must breed here, for although I have never found a nest, I have seen both male and female birds during the summer.

Protonotaria citrea. PROTHONOTARY WARBLER.

Is one of the very rare Warblers in this county. Saw a single specimen this season.

Helminthophila pinus. BLUE-WINGED YELLOW WARBLER.

A RATHER rare breeder. The nests I have found of this species have been placed on low vines and bushes close to the ground in the edge of thickets; nests bulky, composed of leaves lined with grass, pieces of grapevine and hair.

Helminthophila ruficapilla. NASHVILLE WARBLER.

THIS species is more common than is generally supposed, its small size and inconspicuous coloring allowing it to escape notice. I found it quite common during migration this season.

Helminthophila peregrina. TENNESSEE WARBLER.

THIS is one of our most common Warblers during migration, being abundant every spring. They arrive about May 1st and remain present about two

weeks; very noisy and easy to find. I have not found it to vary much in numbers one season with another.

Compsophlypis americana. PARULA WARBLER.

THIS interesting little Warbler is a tolerably common migrant and easy to find, for although of small size, it is not shy and easy to approach. It was quite common for a week the past spring.

Dendroica aestiva. YELLOW WARBLER.

A COMMON breeder, nesting in low bushes. Too well known to need further comment.

Dendroica caerulescens. BLACK-THROATED BLUE WARBLER.

THIS I consider as one of our rare Warblers, having only noted it a few times.

Dendroica coronata. YELLOW-RUMPED WARBLER.

PRIOR to the spring of 1895 this was a very common species here. In former years they usually arrived about the middle of April in large numbers and I have frequently seen them feeding on the ground in plowed fields during cold spells when other food was scarce. In the spring of '95 I did not see over ten individuals and the first not until May 5th. In spring of '96 they were only noted on two days, April 28th and 29th. The question arises, did the same cause that almost exterminated the Blue birds also desiccate this species?

Dendroica maculosa. MAGNOLIA WARBLER.

THIS beautiful species is a tolerably common migrant, but owing to its late arrival is not easily seen, by the trees being in leaf; first was seen May 8th, 1896.

Dendroica pensylvanica. CHESNUT-SIDED WARBLER.

AN abundant migrant and rare breeder; bulk present about three weeks in Spring.

Dendroica castanea. BAY-BREASTED WARBLER.

Is a rather rare migrant, only one specimen seen the present season. This species varies much in numbers in different seasons; a few times I have found it to be as common as the Chestnut-sided.

Dendroica blackburniae. BLACKBURNIAN WARBLER.

THIS brilliantly colored Warbler seems to be uncertain in its movements, some seasons being quite common and perhaps the next scarcely one to be found. I saw but a single bird the past spring.

Dendroica vigorsii. PINE-CREEPING WARBLER.

A VERY rare species. I shot a male April 17th, 1896, and saw another April 20, which is the first I have ever noted here.

Dendroica palmarum. PALM WARBLER.

A COMMON and early migrant; mostly all gone in a few days.

Seiurus aurocapillus. OVEN BIRD.

A COMMON breeder; arrives early for a Warbler and departs early in the fall. Every patch of woods in this locality contains a pair or two during the summer.

Geothlypis formosa. KENTUCKY WARBLER.

THIS species must be classed as rather rare but a few breed here every season. I know of a place where it can be found every season; saw the first, last spring, May 8th, next, May 16th and found a nest on May 29th containing 1 egg and 2 Cowbird eggs, incubation begun. This nest was placed in a bunch of ferns three inches above the ground and well concealed by the ferns hanging over it, it was large and bulky, lower part entirely composed of oak leaves with inner nest of fine twigs and roots and lined with hair.

Geothlypis trichas occidentalis. WESTERN YELLOW-THROAT.

A COMMON summer resident, but varies much in numbers in different seasons. The present, it is one of our most common birds. Its nests are usually placed in the edge of thickets, but I have found them in open pasture fields in a slight depression of the ground by a bunch of grass.

Icteria virens. YELLOW-BREASTED CHAT.

THIS, our largest Warbler and a very handsome bird, is a common summer resident. Upon its first appearance in spring it is very shy and not often seen but as the nesting season approaches the male becomes very noisy and not very hard to approach. In the latter part of the season they are hardly ever seen and are all gone early in August.

Sylvania mitrata. HOODED WARBLER.

I HAVE only one record of this species; that was in the first of June, the present season.

Sylvania canadensis. CANADA WARBLER.

THIS species is not very common, but not so rare as might be supposed, its habits of keeping in the tree-tops causing it to be seldom seen.

Setophaga ruticilla. AMERICAN REDSTART.

A WELL known species of an unsuspicious nature, an abundant migrant and quite common breeder. The nest of this species closely resembles that of the Yellow Warbler. June 19th, 1896, I found a nest which, as far as position and structure goes, could not be told from a nest of the Yellow Warbler. It was placed in the crotch of a dog-wood, four feet above the ground; composed of grass and plant-down compacted together, lined with fine grass and feathers and contained three eggs and one egg of the Cowbird. The nests of this species which I have found have never averaged as high above the ground as is usually stated, all of them ranging in height from four to 15 feet and more at four feet than any other height.

In conclusion I would state that I seldom find a Warbler's nest without one or more eggs of the Cowbird and as every one means the destruction of a brood of Warblers would it not be a wise plan for the Association to declare war against this parasite? It appears to me that if every member would constitute himself a committee of one to destroy both eggs and birds whenever possible it might be the means of at least holding this species in check.

BOB WHITE.

BY WILMON NEWELL, HULL, IA.

LOOKING over the many beautiful and beneficial birds, the lover of Nature, as well as the true sportsman, does not fail to pause and feast his mind's eye upon the form and grace of our common game bird, the Quail. The terms, "Bob White" and "Quail," are both widespread in their use but that they both refer to the same bird, *Colinus virginianus*, there is not the least doubt.

Though comparatively scarce in portions of the state, yet it is doubtful if the Quail is totally extinct in any one locality. In the central part of the state, and especially around Ames, it is not a common bird, but flocks are met with in the timber along the Skunk and Des Moines rivers. In this, the north-western portion of the state, they are abundant.

The past few mild winters and a stricter enforcement of the game laws have given them a fine chance to increase. Nearly every farmer's grove has its flock of from ten to thirty, to say nothing of those found in the brush along creeks and rivers. Twenty five years ago a Quail was a rarity in this region, even along the rivers. Like green islands in a desert, the settlers' groves began to appear here and there over the prairies. Following close behind the pioneers came the Quails and immediately set up housekeeping. The kind hearted settlers did not drivethem away nor did the hunter's gun disturb their domestic affairs. Forced to avoid only their natural enemies, they took to the groves and there nested in the weeds and leaves.

Nests containing twenty eggs were common and the author has counted as high as twenty-seven in a single nest. Such large sets were probably laid by two or more birds, whether owing to lack of proper nesting sites we cannot say. What a picture of peace and harmony they were, undisturbed by man.

Their nesting habits are essentially the same at present but they have become more wary. When the eggs are hatched, the mother leaves the nest with her little ones and begins the hunt for food. They follow her much as do young Prairie Chickens or even our own tame chicks. Cute, little, downy fellows they are too. Lively at all times, they are veritable streaks of lightning when they take after a bug or vie with each other for some tempting morsel found by the mother. Full growth is obtained in the latter part of summer and by early winter the birds have become plump and fat.

As soon as the first light snow is on the ground, the local sportsmen are after them in full force. A knowledge of the birds' habits gives the hunter an unfair advantage. During this season the Quails leave their roosting place in a grove about daylight and feed along the road until sunrise or a little later. Then if a corn-field be handy they will trot into it and, keeping well together, feed through the field during the forenoon. Of course if snow has fallen the previous afternoon or night, their tracks are distinctly visible and the hunter readily tracks them into the corn-field where, by careful walking, he can get within easy range. At a slight noise the Quails will invariably run close together or dart into a bunch of weeds or grass. At this moment a single shot

from the pot hunter will work great slaughter. Ten or a dozen birds, out of a flock of fifteen or twenty, at a single shot is the usual number killed in this way.

Once fired into, the remaining birds scatter in every direction. Each individual Quail looks out for himself and after flying thirty or forty rods, alights, runs a few rods more and then completely hides in a bunch of husks or anything else handy. Here he stays and he has got to be literally kicked out before you can get a shot at him. When he does get out, though he does it with a whir-r-r, and without ceremony, it takes a mighty good shot to interfere with his intention of going somewhere else. Once in a while a hunter is found who can shoot them on the wing and rarely miss, but as far as the local nimrod is concerned they are perfectly safe.

A severe winter is very hard on our little friends and one such so nearly exterminates them that four or five years are required for them to regain their numbers. They roost in the groves or along sloughs and fences. The colder the weather the closer they huddle together to keep warm. This attempt at self preservation proves their destruction for the drifting snow buries and sometimes smothers them. Not until spring thaws can one realize the destruction. Well do we remember how the tears of pity used to fill our eyes during the severe winter several years ago when hundreds of the poor creatures perished.

Shooting Quail is considered a very fine sport and true it is that a steadier nerve and a quicker action are nowhere required than at this pastime. Be that as it may, the lover of Nature must raise his hand against such sport for it is cruel and useless. The amount of meat on a single bird will not pay for the time and trouble required to kill it. Such shooting is no more than satisfying the bloodthirsty brute nature of the shooter. As far as the skill is concerned, that could just as well be acquired and used somewhere else.

During the winter, if unmolested, the Quails become exceedingly tame. They will wander around the barnyards and even eat with the tame fowls. The farmer zealously protects them and woe unto the man or boy who attempts to thin out his flock of Quails. Would that the farmer realized as well the importance of preserving many of our other birds, especially the hawks and owls. If we could enlist the farmers in our cause, success in the protection of our birds would be assured. As it is, however, many species are approaching rapid and total extinction and our utmost efforts can stay their end but a few short years. Nevertheless let us do our feathered friends a good turn when we have an opportunity. One such opportunity we have in discouraging the killing of our Quails. If anyone possesses the bloodthirsty desire to slay them, let him steal upon them, without dog or gun, in their natural haunts and there study their matchless innocence and beauty. Then if he can harm one of them without a conscious pang of sorrow and regret, his must be a hardened heart indeed.

An Accidental Visitor.

Mr. Franck C. Pellet of Atlantic sends me a discription of what will prove to be one of the murres, probably the Atlantic form, *Uria troile Linn.* It was captured alive, but thoroughly exhausted, Dec. 20th near Atlantic and died soon after. It has been mounted and is now in Mr. Pellett's collection. A strange visitor for our state, surely.

J. H. BROWN, Davenport, Ia.

THE NEW YEAR'S WORK.

WITH the commencement of our 1897 work, let us bear in mind the work of our Association now under way and so shape our spring work as to be of the greatest value to that. All points in doubt should receive special attention, as well as the rare birds and especially the rarer nesting birds; the Flycatchers, Warblers, rare Vireos, etc.

The food of all the birds coming under our observation should be carefully noted also, and deductions made from these as to their economic value to the agriculturist of our state.

Among points of special interest for the spring work, I would suggest the following:—The Wrens, especially by observers in the southern and eastern parts of the state; the “Traill's Flycatchers,” by observers both in the eastern and western part of the state; and the Shrikes, both in the southern and northern part of the state.

The Wrens and Shrikes are not easy to differentiate among the closely related species, and with regard to the “Traill's Flycatcher” it seems to me that the prevailing form in our state will be found to be the Little Flycatcher, instead of Traill's. Among the waders there seems to be room for observation also, and among the Sparrows too, both migrant and summer residents.

Mr. Savage has suggested that I take up this work to be reported upon at our next congress. So if the members will send me such skins of species about which there is any doubt as to their identification, I will do the best I can with them and we can hold an informal “inquest” at the next congress, after which, of course, all specimens will be returned to the collectors. And last but not least, let us have full reports from each member of the birds having come under his observation, both migrants and breeders, and when he has observed the same species in two or more counties, let us have all the records, as the distribution of the birds within our state will be of great importance.

J. H. BROWN, Davenport, Ia.

BIRD MIGRATION IN IOWA.

IN the winter of 1881-'82, Prof. W. W. Cooke made an attempt to secure the assistance of the ornithologists of Iowa in studying the migration of birds; but a change of residence on the part of Mr. Cooke from Iowa to Minnesota, made it necessary to modify the original scheme, and it was desired to increase the area to be investigated to the whole Mississippi Valley, the admirable report—Bird Migration in the Mississippi Valley—published by the U. S. Dept. of Agriculture, being the outcome of this co-operation. The scheme of studying bird migration in Iowa has never been resumed.

In preparing the “Birds of Iowa” with annotated notes, the compilation committee thought a proper course to pursue would be to study the bird waves which pass through the state during the spring of 1897. In order to do this successfully we must have the co-operation of a large corps of workers well distributed throughout the state. Not only do we solicit aid from all the members of the Iowa Ornithologist Association, but from every observing ornithologist in the state and adjoining states. Our method of work will be the same as Prof. W. W. Cooke used in preparing his work.

We desire observers to send in reports at the close of each month. First, let those willing to contribute, write us at earliest convenience, giving the report for January. We will give full credit for all notes submitted. For the instruction of observers, a copy of January, 1897, bird movements at Salem, Ia., Lat. 41 degrees, 40 minutes, observed by David L Savage, is given.

SYNOPSIS OF MIGRATION, LAT. $41^{\circ} 40'$ FROM JANUARY 1st TO JANUARY 31th, 1897.

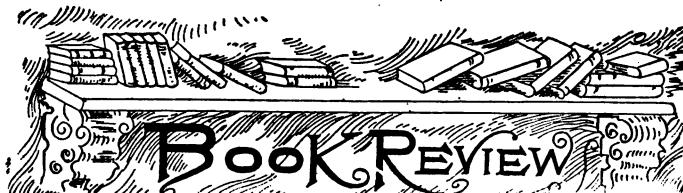
Jan. 1	Mild and damp.		
" 2	Wind in east.		
" 3			
" 4	Moderately cold.		
" 5	Theo. 10%		
" 6			
" 7		Ground bare.	
" 8			
" 9			
" 10			
" 11			
" 12	Warm for winterweath'r		
" 13	A few Robins, Mourning		
" 14	Doves, and Flickers are		
" 15	with us yet.		
" 16	First flock of Geese.		
" 17	Three inches of snow.		
" 18		Light snow on the	
" 19		ground. No sledding on	
" 20		the roads.	
" 21			
" 22			
" 23	Cold wave, with snow		
" 24	storm.		
" 25			
" 26	Coldest period.		
" 27	Theo. 15% on the 25th.		
" 28		Ground covered with	
" 29		four inches of snow.	
" 30			Creeks frozen.
" 31			

Of course, as the season advances, the bird movements become more marked and the climatic changes will not form as conspicuous a part in the report.

This in no wise supplements the work of the check-lists, which we sent out with the October IOWA ORNITHOLOGIST. We acknowledge receipt of check-lists from the following persons: i. e., Ernest Irons, Council Bluffs; Dr. Guy C. Rich, Sioux City; Walter G. Savage, Hillsboro; Edmonde I. Currier, Keokuk; Rob't. A. Tomlinson, Alden; J. Eugene Law, Perry; J. A. Savage, Hillsboro; R. D. Goss, New Sharon; Wm. A. Bryan, New Sharon; Mary L. Rau, Manchester; Wm. E. Praeger, Keokuk; C. C. Smith, Decorah; Lynda Jones, Oberlin, Ohio; Isador S. Frostler, Omaha, Neb.—the last two named having collected in Iowa.

Let all those who received the check-lists fill them out immediately, a cross in front of the bird's name to indicate summer resident and a dash not summer resident. Take a little time and send your check-list in at once, as you hinder the work of the committee by delaying. The chairman of the committee desires to receive a letter from every member of the I. O. A. before the middle of March.

Committee on **Compilation**. DAVID L. SAVAGE, Ch'm. PAUL BARTSCH,
CHAS. R. KEYES, JOHN V. CRONE,
MORTON E. PECK, H. J. GIDDINGS



New books and other publications will be reviewed in this department. Authors wishing publications reviewed should send them to the Editor, who will examine them personally and give them due consideration.

"Anderson's Birds of Winnebago and Hancock Counties, Iowa."—The second list of a series, which it is hoped will continue to be published by Iowa ornithologists. These lists have an inestimable value in the preparation of the "Birds of Iowa" now under way by the I. O. A. committee. The topography of these counties show that their greater area is prairie and marsh land and the large number of water birds, seldom found in other parts of the state, make this list of especial value. The list is based mainly on observations made by the writer within the last six years. Of the 216 species noted, 16 are classified as permanent residents, 101 as summer residents and 99 as transient and winter visitors. The list is handsomely printed, comparatively free from typographical errors and is a welcome addition to the ornithological literature of the state.

"Forbush on the Crow in Massachusetts." This paper is divided into the following headings: i. e., Migration, Gregarious Habits, Mating and Nesting Habits, Digestive Capacity of the Crow, Food of the Crow, the Protection of the Crops, Is the Crow a Friend. Under each division there is from one to eight pages of interesting and valuable information. In answering the often asked question—Is the Crow a Friend?—the writer says: "The wholesale destruction of Crows is said to have been followed by a remarkable increase of injurious insects, and from what is now known about the Crow's food we may conclude that, unless the birds become unduly numerous, they are likely to be of great service to the farmer. It will pay the farmer to sacrifice some portion of his products to the Crow, provided he uses care that the cunning bird does not over-reach him in his bargain."

PUBLICATIONS RECEIVED.

Forbush, E. H., "The Crow in Massachusetts." (Mass. Crop Report for August, 1896, pp. 24-40.)

Jones, Lynds, "General Notes." Bulletin, Nos. 9, 10, 11. Wilson Orn. Chap. Agassiz Assn. July, Sept., Nov., 1896.

Auk, Vol. 14, No. 1, January, 1897.

Le Naturaliste Canadien, Vol. 23, Nos. 9-12, Oct., Dec., 1896.

Museum, Vol. 3, Nos. 1-3, Nov.-Dec., 1896, Jan., 1897.

Nidologist, Vol. Nos. 3, 4, 4, 5, (combined) Nov.-Dec.-Jan., 1896-'97.

Oologist, Vol. 14, Nos. 1-2, Jan. Feb., 1897.

Oregon Naturalist.

Osprey, Vol. 1, No. 3, November, 1896,

Popular Science News, Vol. 31, Nos. 1-2, Jan.-Feb., 1897.

MEMBERS OF THE IOWA ORNITHOLOGIST ASSOCIATION,
JANUARY, 1897.

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(Omission of date indicates a founder.)

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39	Savage, David L., Salem,	-	-	-	-	-	1895
40	Searles, W. W., Lime Springs,	-	-	-	-	-	1895
41	Shoemaker, Frank H., Hampton,	-	-	-	-	-	1895
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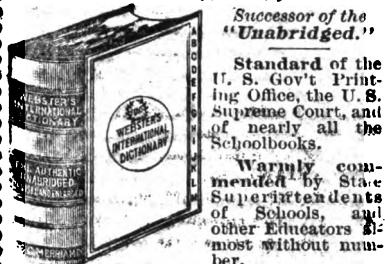
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NO. 2.

APRIL, 1897.

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SNOWY OWL.

Nyctea nyctea.

The Iowa Ornithologist.

Vol. III.

APRIL. 1897.

No. II.

THE IOWAN RAPTORES.

BY CHAS. R. KEYES.

Paper read before the Second Congress of I. O. A.

Continued From Last Issue.

(14)—*Archibuteo lagopus sancti-johannis.* AMERICAN ROUGH-LEGGED HAWK.

THE American Rough-legged Hawk, one of the largest of our Hawks and distinguished by its feathered tarsus, is found throughout the whole of North America, but is only a winter resident south of Canada. It breeds mainly north of the St. Lawrence river, and so has no especial influence on agriculture. It is known, however, to be of a peaceful disposition, using the most humble food, which consists principally of meadow mice and small rodents. Although breeding in localities in British America where valuable game birds are abundant, it is seldom, if ever, known to disturb them.

(15)—*Archibuteo ferrugineus.* FERRUGINOUS ROUGH-LEG.

THE Ferruginous Rough-leg is a large, powerful, and handsome species, common on the Great Plains of the west. It is occasionally, only, in Iowa. Its habits are similar to those of the Rough-legged Hawk, its food consisting chiefly of small rodents, as gophers, mice, prairie dogs, etc., which abound in prairie regions which it inhabits.

(16)—*Haliaeetus leucocephalus.* BALD EAGLE.

THE Bald Eagle is not as common in Iowa as formerly and can scarcely be classed as a common bird here. However, pairs of these Eagles are frequently seen along our water courses, especially in the early spring, and occasional pairs are known to breed in the state. For a bird of its glory it is hardly as useful as it should be. While seldom affecting the farmer's interests directly, it destroys large numbers of birds which, at least, are not prejudicial to his interests. Its principal articles of diet are water fowl of various kinds, geese, brant, ducks, cormorants and others. It also uses fish, often captured at second hand from the American Osprey, and has been known to eat carrion. This last, though, is probably made use of only when other food is not procurable. Cases of these birds catching young lambs, and even young children, and flying away with them, as has sometimes been reported, must be very rare indeed, if not in most cases fables.

(17)—*Falco mexicanus.* PRAIRIE FALCON.

THE Prairie Falcon is casual to Iowa, being common on the Great Plains of the West. It is probably more harmful than beneficial, as it lives largely on

other birds, as Black birds, Doves, Pigeons, Meadow Larks and various game birds. It lives partly on hares, where these are abundant, and on small rodents of various kinds; but this is the case when other food is scarce.

(18)—*Falco peregrinus anatum*. DUCK HAWK.

THE Duck Hawk, or Peregrine Falcon, resident in Iowa, and might almost be classed as a rare bird. It certainly cannot be called common. It is the boldest of our birds of prey, and it would seem that, from an economic standpoint, it is almost indefensible. Its food consists of the different species of Ducks; game birds, such as Bob Whites, Pigeons and Grouse; Hares, various small birds and domestic fowls.

(19)—*Falco columbarius*. PIGEON HAWK.

THIS bird is occasionally seen in Iowa during the fall and winter seasons, but it is rare that a pair breeds here, as the great majority spend the spring and summer farther north or in higher altitudes than are found in Iowa. The food of the Pigeon Hawk consists, to a great extent, of small birds. It is said that it will not hesitate to attack one fully as large or even larger than itself. Its diet in summer is made of insects, as grasshoppers, crickets, etc.

(20)—*Falco sparverius*. AMERICAN SPARROW HAWK.

THE little Sparrow Hawk is a common summer resident in Iowa. On account of its size it has often been confounded with the Sharp-shinned Hawk, and has been accused of sins which should have been laid to the charge of this latter species. Although the Sparrow Hawk sometimes kills small birds, especially in winter when food is scarce, yet its food is made up for the most part of small rodents, insects and larvae of various kinds, lizards and small snakes. When grasshoppers are abundant they form the bulk of its fare.

(21)—*Pandion haliaetus carolinensis*. AMERICAN OSPREY.

ECONOMICALLY the American Osprey seems to have little effect either for good or evil. According to Capt. Charles Bendire of the U. S. Army, "The food of the Osprey consists entirely of fish, and these are usually the inferior species, such as are seldom used for the table." Although the bird is nearly cosmopolitan in distribution, it is uncommon in Iowa; at least it is a rare species in the vicinity of Mt. Vernon.

(22)—*Strix pratincola*. AMERICAN BARN OWL.

THE Barn Owl is rare north of latitude 41°, and so is not common in Iowa. Few birds are more valuable from an economic standpoint than the Owl, though it is subject to much persecution from the mistaken supposition that it robs the poultry yard. This supposition gains its plausibility from the fact that the bird is so commonly seen in the neighborhood of barns and outhouses. As a matter of fact the Barn Owl subsists almost entirely on noxious vermine, as mice, rats, ground squirrels, pouched gophers, small reptiles, bats, frogs and such insects as crickets, grasshoppers and beetles. It is rare that a small bird

becomes a prey to this species, though doubtless scarcity of other food would sometimes make this the case.

(23)—*Asio wilsonianus*. AMERICAN LONG-EARED OWL.

THIS is a common species in Iowa, and is also a useful and almost harmless species. Remains of poultry and of birds are sometimes found in the stomachs of these birds, but this is a rare occurrence. By the larger part of their food consists of squirrels, chip-munks, gophers, mice and frogs.

(24)—*Asio accipitrinus*. SHORT-EARED OWL.

THE Short-eared Owl is also common in this state, being resident, as is also the Long-eared species, throughout the year. It is the owl commonly seen flying low over the open meadows and sloughs. It is undoubtedly a beneficial species, using as the articles of its diet small rodents of various kinds, principally meadow mice and gophers, as also grasshoppers and different kinds of insects. Occasionally a small bird enters into the bill of fare.

(25)—*Syrnium nebulosum*. BARRED OWL.

THIS is a large species common everywhere in Iowa where large timber exists. Being almost as large as the Gt. Horned Owl it sometimes receives discredit which should be given to the latter species. The experiments of Dr. C. Hart Merriam, of the U. S. Dept. of Agriculture, tend to show that the Barred Owl is far more beneficial than otherwise. Of ninety-five stomachs examined only three contained poultry; twelve, other birds, none of which were game birds; forty contained mice; fifteen, other mammals, among these only a few rabbits and timber-squirrels; four, frogs; nine, crawfish; two, fish; sixteen were empty. Besides these, snakes, earth-worms, grasshoppers and different species of beetles and flies are eaten. Meadow mice seem to be the staple diet with this species. The writer remembers one nest containing young birds that was almost lined with mice tails, these being the only remains of food of any kind found in or near the nest cavity.

(26)—*Nyctala acadica*. SAW-WHET OWL.

THE Saw-Whet or Acadia Owl is the smallest member of the family found in Eastern North America, and cannot be said to be common anywhere. It is an innocent bird for the most part, not often making a meal on a small bird of any kind. Its food is made up of mice and other small rodents for the most part. Probably frogs and insects are also eaten.

(27)—*Megascops asio*. SCREECH OWL.

THE Screech Owl is well known in Iowa and is common. It is one of the most profitable and useful of birds and deserves protection on account of the great numbers of mice and other rodents and noxious insects destroyed by it yearly. Crawfish, frogs and caterpillars are also eaten by this species. It seldom molests a bird.

(28)—*Bubo virginianus*. GREAT HORNED OWL.

OF the Owls commonly found in Iowa, the Gt. Horned alone seems to stand guilty and convicted of a long list of crimes, which make the bird harmful rather than beneficial. Is the largest and most powerful Owl in America, is common in Iowa and a resident throughout the year. It is not only generally conceded to be the most destructive of all our Raptore, but is said by some to commit more damage than all other species together. It is a frequent visitor to the poultry yard, where it kills numbers of chickens, turkeys, pigeons, ducks, geese, and Guinea fowls, even entering the coops after these at times, as many a farmer can testify. Bubo also plays sad havoc among the game birds, being the most dreaded enemy of the Grouse, Bobwhites, Prairie Hens and others. But one of the worst features of the bird's disposition is that it is wanton, killing many more victims than it needs for food, and often simply eating the heads of its prey if it can obtain these in sufficient number. Among mammals which are killed by the Gt. Horned Owl may be mentioned rabbits, squirrels, skunks, muskrats and the smaller rodents.

(29)—*Bubo virginianus subarticus*. WESTERN HORNED OWL.

THIS is a lighter colored form of the preceding species, which is rare in Iowa. In disposition it does not differ from the Gt. Horned Owl.

(30)—*Nyctea nyctea*. SNOWY OWL.

THE Snowy Owl reaches Iowa only in midwinter from the north and is fairly common only. The good done by this bird in destroying noxious rodents seems to be about counterbalanced by the damage done to the game and water birds.

IN addition to the above species the American Goshawk and Richardson's Merlin have been reported in Iowa. They must, however, be exceedingly rare and for the present will be disregarded.

A few conclusions from the above study may reasonably be drawn :

FIRST—Of the thirty species enumerated above, only eight, viz., the Sharp-shinned Hawk, Cooper's Hawk, Bald Eagle, Prairie Falcon, Duck Hawk, Pigeon Hawk, Gt. Horned Owl and Western Horned Owl are more harmful than beneficial.

SECOND—Of the eight harmful species only two, viz., Cooper's Hawk and Gt. Horned Owl are common enough to have any appreciable effect on economic interests.

THIRD—No objection could be made if a price were set upon the heads of the last two for practical purposes, and on the other six for the sake of consistency.

FOURTH—The other twenty-two species should be recognized by law as beneficial, or, better still, the farmer should look upon them as promoters of his own interests, and protect them for his own sake.

The question may be asked how are the two harmful species to be known from the harmless and beneficial ones. Quite easily. Every farmer's boy

knows the "Big Hoot Owl, with ears on his head." It is the largest Owl we have. The Cooper's Hawk is sometimes called the "Bullet Hawk" from the swiftness of its flight. It is also known as the "Small Hen Hawk," both names being appropriate. It is smaller in appearance than a crow, has a tail long in proportion to its body, is slaty-brown in color, and is usually quick and nervous in its movements.

THE WRENS OF BURLINGTON, IOWA.

BY PAUL BARTSCH.

PERHAPS no other group of birds in this locality is more interesting than our little busy bodies, the Wrens. Their queer, ever variable attitudes mingled with spirit of mischief and restlessness make them a pleasing mark to the eye. Should we spend some time in watching them in the performance of their domestic duties, beginning with courtship, wars, selection of nesting sight, and finally view the happy family, we will agree to ascribe to them superior intellect over many of their feathered companions.

THE most abundant of the five species is the House Wren (*Troglodytes aedon*), the tenant of our bird box, the fearless enemy of the English Sparrow, with whom he successfully copes for the right to this, their domicile.

* The little fellow arrives about April 25th from his Southern journey and at once greets us with his vivacious, rattling song. He inspects the premises most carefully and gives vent to his pleasure in his ceaseless chant. The female soon follows, maybe a day or two later and is joyfully received by her mate.

Many skirmishes now take place between the Sparrows and the Wren but Mr. Wren generally holds his own and finally lays claim to the bird house, which has been cleaned on his return. He now has a mania for filling up every box with sticks and frequently becomes a nuisance when he persists in filling a mail box not intended for that purpose. Even this passes and graver duties call his attention. He has been quiet for some time, only occasionally in early morning and perhaps at eve has his song greeted our ears, and his angry rattle warns us when we approach too close to the house containing his treasures.

Mrs. Wren seems absent most of the time for we seldom see her and when she appears on the scene it is only to take a sun bath and some food and then she returns quietly to her beauties. In due time we are informed of the presence of a younger generation by the sounds that emanate from the bird house. New life seems to have entered the pair and busily they both carry food to the young family, and hundreds and hundreds of trips do they make in a single day, always prepared to place something into their gaping bills. Most interesting of all, is the family on the move, the angry warning rattle hardly ever ceases. Cats, dogs, everything that creates the least suspicion is scolded by the pair,

* These notes were taken from observations made on a pair which inhabited one of our bird houses for a number of years.

leading the young about the fences, through the arbor, the trees and shrubs, inspecting the wood sheds and stables. The neighbor's yard is next subjected to a similar scrutiny and soon the whole family leaves the premises seeking a wider field of action, the work of the season being complete.

The bird house is by no means the only place used as nesting site by this bird, natural cavities in trees, old Woodpecker nests, mail boxes, cornices of houses and sheds, I have even seen them enter the space between the plastering and outer wall in a frame house through a knot hole. Anything possessing an opening and containing a suitable cavity may serve this purpose.

Some of the rarer instances that have come under my observation were nests in cliffs and on the switch board of an arc lamp. In the last case the nest was destroyed daily for a week or more by the trimmer of the lamps, but the Wrens persisted and it was always found pretty well advanced in construction the following day. At my request it was finally allowed to remain and it was not so bad a place after all for numerous insects, killed the previous night by the light, were within the globe each day and furnished the Wren family with many a rare morsel in compensation for the disturbance which they endured during the night, or maybe the sizzling and rattling of the lamp were looked upon as a lullaby.

THE next in abundance is the Short-billed Marsh Wren (*Cistothorus stellaris*). Contrary to the habit of his relative, the House Wren, he shuns the busy haunts of men and seeks the solitude of the marshy prairie. You may find him in abundance in swampy prairie traversed by a little rivulet, bordered by wild rice (*Zizania aquatica L.*). Here he makes his home and contrary to his pugnacious brother he seeks the company of his fellow Marsh Wren, breeding in colonies. It is indeed a pleasing sight to walk along the edge of one of these rills as Old Sol floods the scene with his morning light and kisses the sparkling drops from every reed now bent with dew. The little songster's lisping song, a plain ditty, will greet you on every hand; and bunched up on some tall reed you will see the performer with his cocked up tail and distended throat sending forth his morning prayer. He's not shy but will allow you to approach quite close looking you over and as if to say, you will not harm me, he continues his simple song.

The nest attached to some reeds near the ground consists of a woven mass of marsh grass,—a sub-spherical ball with an opening at the side—the interior being lined with finer material. I have often wondered how many nests one pair builds, for nests are very common, but eggs, well that is another question. Many times will the oologist pass his finger into a nest, only to find it empty and it required some time ere I perceived that the new nest which seemed ready for the compliment of eggs was nothing more than an effort of the male to keep himself busy while his mate was covering her jewels in an unattractive old looking nest.

THE Long-billed Marsh Wren (*Sistothorus palustris*) the cousin and neighbor of the last named specie is found in the same locality but sparingly only, and I have as yet to find a nest. In habit he resembles his lesser friend, possessing, however, a more secretive nature. Often have I chased one of these

for a hundred yards or more through tall reeds and duck weed (*Nelumbium luteum Willd.*) getting a glimpse of him now and then but never long enough to take an aim and finally loosing sight of him. The bubbling song always reminds me of a flock of Black Birds in the distance.

THE fourth in order of abundance is the Bewick's Wren (*Thryothorus bewickii*). This bird is a rather uncertain summer resident; for some years he will fail to put in appearance and the next he may be quite abundant. This strong voiced bird with his long whisping tail, like the House Wren, seeks the habitation of man.

The long tail lends him a rather queer aspect and the perpetual sweeping of this organ in accent to every note, twist or turn cause him to appear not only comic but even ludicrous. Of all the birds about our yard I think he is the most pleasing as one never tires of his attitudes. Two instances of his breeding within our city limits have come under my personal observation and in both cases the nest was placed in a shed on the beam supporting the roof, i. e. where the roof joins the wall. Both were bulky affairs; the space, about 8 x 10 inches, was filled for more than three feet with sticks of various sizes. The nest proper, near the center was well lined with feathers from the common fowl, picked up about the yard, and contained a set of six (May 25th, 1892, and May 30th, 1893,) which in each case were left unmolested in order to give me an opportunity to observe the birds for a longer period.

The Bewick's Wren is not contented with the limited stamping ground but will roam over considerable territory. Even in nesting time he seems to follow the same route daily and if you have once followed him in his morning rambles from fence to fence, yard to yard and bush to bush, you can easily keep in his wake a second morning, for his path is practically the same. Only when the young have made their appearance does he restrict his rambles to the immediate vicinity and like the House Wren, his only ambition now seems to be to keep the little gaping mouths supplied with food. As soon as the young are able to move, the pair lead them off into new fields and consequently from our sight.

THE last of the lot, the Winter Wren (*Troglodytes hiemalis*), is a winter resident, not common to be sure, yet one can always find him in his season if one knows where to seek him.

When most of our birds have sought a warmer clime and the fast falling leaves speak of approaching winter; when the advance Snow Bird mingles with the host of retreating Myrtle Warblers and the Blackbirds' flying train seems endless, then our little inconspicuous friend comes from his Northern abode to spend with us the cheerless winter. The rocky bluffs along the Mississippi and its tributaries are his domain. The rougher the crag and denser the brush that bounds it the better it suits his Wrenship. He is a very quiet unattractive bird, uttering only a few notes of displeasure when disturbed as his short flight takes him from one retreat to another. He carefully inspects the numerous crevices of the rocky cliffs and gleans from them his sustenance.

Returning spring finds him restless and more active, preparing for his colder home, and when the last of the Snow Birds have left us, he is sure to have disappeared from his favorite haunts.

NOTES AND NEWS.

MR. J. H. BROWN writes that a Golden Eagle was captured not far from Davenport in December of 1896.

MR. DAVID L. SAVAGE will deliver a scientific lecture on "The Wonders of the Bird World" at Glendale, Iowa, the evening of April 27th.

DURING the months of March and April, thousands of Crows gathered every evening at a roost in Jefferson county, near the home of Mr. Hiram Heaton.

MR. GEORGE C. HOOVER, of West Branch, Iowa, writes that he has in his collection a specimen of Murre (*Uria troile*) taken in Johnson county, in January of this year.

MR. FRANK H. SHOEMAKER has left Hampton, Iowa, and located in Omaha, Nebraska. He is not forgetful of the I. O. A., but sends his wishes that it may have the greatest possible success.

PROF. FRANK A. WILDER has a zoology class at Ft. Dodge, Iowa, which is working up a list of birds of Webster county. He writes that if they can assist the committee on the "List of Iowa Birds" they will be pleased to do it.

MR. LYNDS JONES, an instructor in Oberlin College, Oberlin, Ohio, writes: I am very glad that the I. O. A. committee is pushing the work of a new list of Iowa birds. My heart is still in my adopted state (Iowa) and many times I find myself planning to return.

MR. CHARLES R. KEYES, of Blairstown, Iowa, found a nest of the Red-tailed Hawk on April 6th containing one fresh egg. On April 10th, a nest of the Long-eared Owl containing three eggs and three young. His latest record in the first case and the earliest in the other.

A LETTER from Mr. Ernest Irons, of the University of Chicago, (formerly Council Bluffs, Iowa,) says that he is preparing an article for the IOWA ORNITHOLOGIST on the "Field Columbian Museum," touching the points of interest to the ornithologist. He will have it ready for the July issue.

MR. CARL FRITZ HENNING writes that his friend, Mr. Cal Brown, on October 28, (1896) secured an albino English Sparrow. He first noticed it on the 22nd, with a flock of twelve, feeding on the ground. Mr. Henning presented the specimen to Hon. Charles Aldrich, who has had it mounted for the state.

A WELL written and timely article, entitled "Bird Pictures," appeared in Scribners Magazine for April. The writer, W. E. Scott, scorns the conventional method of bird-stuffing and furnishes eight pictures of birds mounted according to his ideas. He states that the bain of this work has been copying and imitating, not observing and originating.

MR. W. E. PRAEGER delivered a lecture on "Our Birds" at Keokuk, Iowa, on the evening of the 19th of March. The lecture was illustrated by a collection

of several hundred bird skins and other ornithological curios. Admission to the lecture, 25 cents. This was a very entertaining and instructive lecture, arousing in the hearers, a new interest in our constant companions, the birds.

PROF. A. J. BUFFINGTON, of Salem, Iowa, has become much interested in watching a colony of Eave Swallows contending with a number of those disreputable foreigners—English Sparrows—that had taken up the abode of the Swallows' before their arrival. He estimated that the Swallows in the colony would number near three hundred, the Sparrows being way in the minority, yet many were the hotly contested battles before the latter surrendered their claims of proprietorship. The last report was that for several days no Sparrows had been seen in the neighborhood.

THE editor of the *IOWA ORNITHOLOGIST* is preparing a series of papers, entitled "Birds of the Midland Region," for the *Midland Monthly*, of Des Moines, Iowa. The first paper will appear in the June number. Most of the illustrations are drawings from the pen of William Savage—Honorary member of the I. O. A. Of the talented collection of water color paintings of birds made by this gentleman, brief mention has been given in the *IOWA ORNITHOLOGIST* before. In some future issue we expect to give space to an extended description of his collection and print a number of half-tones from some of his best pictures. It is believed that an equal to Fuertes is here.

A COMPLETE AND ANNOTATED LIST OF IOWA BIRDS.

COMPILATION / DAVID L. SAVAGE, CH'M., CAS. R. KEYES,
COMMITTEE. / MORTON E. PECK, PAUL BARTSCH,
JOHN V. CRONE, H. J. GIDDINGS.

THE committee-men stand ready and waiting to do their work of compiling the list, as soon as the notes are sufficiently complete. With the October 1896, *IOWA ORNITHOLOGIST*, a check-list of N. A. birds was sent to each member of the I. O. A., with a request to check off the names of the birds personally observed in the state, a cross to indicate summer resident and a dash, not summer resident and also asked that the lists be returned promptly. We acknowledge the receipt of lists from the following members: Ernest Irons, Council Bluffs; Walter G. Savage, Hillsboro; Edmonde S. Currier, Keokuk; Rob't A. Tomlinson, Alden; J. Eugene Law, Perry; R. D. Goss, New Sharon; Wm. A. Bryan, New Sharon; Mary L. Rann, Manchester; C. C. Smith, Decorah; W. W. Loomis, Clermont; Hiram Heaton, Glendale; Guy C. Rich, Sioux City. From ornithologists, not members of the I. O. A., but who have collected in the state, we have lists as follows: William E. Praeger, Keokuk; Melvin Sornes, Ft. Dodge; J. A. Savage, Hillsboro; Chas. K. Salisbury, Reinbeck; Lynds Jones and Isador S. Frostler. We mailed more than fifty lists; where are the others? Let the members attend to this matter at once. Every member should contribute to this work, in order to make the

list COMPLETE. Look up your check-list and return it without delay.

The call in the last *IOWA ORNITHOLOGIST* for the careful study of bird migration in the state has brought response from a number of workers. However only two—H. J. Giddings and W. G. Savage—have made out monthly reports as requested. These two gentlemen are doing excellent systematic field work and we cannot do better than give space to a monthly report from each.

SOME NOTES ON THE BIRDS AND WEATHER IN VAN BUREN CO., IOWA, MARCH, 1897,
BY W. G. SAVAGE.

1. Light cloudy and warm with north-east wind. White-bellied Nuthatches cleaning out holes preparatory to nesting. Great Horned Owls setting and hatching.
2. Heavy cloudy with north-east wind, cool and misting rain; ground covered with 4 in. of snow. Birdlife on the standstill.
3. Clear with cold north-west wind. Red-tailed Hawks moving about, other birdlife generally quiet.
4. Dark, cloudy, with south wind and rain; birds very quiet.
5. Light cloudy, north-west wind; birds not moving much.
6. Light cloudy with north-east wind, cool. Wild Geese passing northward, Cardinal Grosbeaks whistling loud.
7. Dull cloudy with east wind, cool; birds on the stand.
8. Heavy broken clouds with south-east wind, thunder and rain. Blue-birds common; Robins and Slate-colored Juncos increasing; Pewees, Meadow Larks, Mallard Ducks, Green-wing Teels and Bay-wing Sparrows appear.
9. Dull cloudy with north-west wind, cool. Purple Grackles, Song Sparrows and Swamp Sparrows appear, Bald Eagles passing north, small birds generally found in sheltered places from the wind.
10. Clear and frosty with south wind. Red-tailed and Red-shouldered Hawks flying plentifully, other birdlife generally quiet.
11. Dark cloudy with south-east wind and raining some. Red-wing Blackbirds begin to sing, Cooper's Hawks mating, Fox-colored Sparrows and Towhees appear, Meadow Larks common.
12. Clear with strong north-west wind, cold; a few Ducks flying, small birds generally quiet.
13. Dark cloudy with east wind; Red-tailed Hawks laying and sitting, Robins wonderfully plenty and Juncos numerous.
14. Clear with north-west wind; birdlife quiet.
15. Clear with south-west wind. Red-shouldered Hawks nesting, Juncos moving northward, Fox Sparrows common, Woodcocks appear, some Crows nesting.
16. Very light cloudy with south-east wind; Red-tailed Hawks flying very plentiful, Song Sparrows increasing, a few Ducks passing north.
17. Dark cloudy with south-east wind and some rain; birds on the stand.
18. Dark cloudy with gentle south wind and some rain; Robins and Flickers begin to sing, Towhees common.
19. Light cloudy with south-west wind, warm; Buffle-headed Ducks appear, birds in general very lively.

20. Light cloudy with north-west wind, clearing at noon. Turkey Vultures appear, Turtle Doves begin to coo, Pewees common, some Blue Jays looking for a nesting site while others are passing northward, Prairie Hens passing north, Belted Kingfishers common.

21. Light cloudy with north-east wind, cool. American Goldfinches and Marsh Hawks passing north, Woodpecks nesting, Cow-birds appear.

22. Heavy broken cloudy with north-east wind. Great Blue Herons and Sand-hill Cranes appear, Red-tailed Hawks very active.

23. Dark cloudy with strong north-east wind and snowing hard all day. Birdlife generally quiet, a few Sparrow Hawks sitting about on dead trees.

24. Clear with north-west wind, cold, 6 in. snow on ground. Birdlife quiet.

25. Clear with north-west wind, cool. White-rumped Shrikes appear, Bald Eagles flying over.

26. Clear with north-west wind, snow melting fast. Purple Martins appear, Purple Grackles, Marsh Hawks, Brant and Snow Geese passing north.

27. Clear with north-west wind. Wood Ducks and American Widgeons appear.

28. Dark cloudy with high south-east wind, thunder and rain. American Mergers appear, a few Ducks moving about, Turkey Vultures increasing.

29. Dark cloudy with south-east wind; Bob-whites begin to sing bob-white, Juncos and Fox Sparrows wonderfully plenty, Field Sparrows appear.

30. Dark cloudy with east wind, thunder and rain at night; birdlife very quiet.

31. Dark cloudy with east wind and some rain, streams heavily swollen. Yellow-bellied Woodpeckers and Bartramian Sandpipers appear, Birdlife generally quiet.

BIRD MOVEMENTS FOR APRIL, 1897, AT SABULA, IOWA, BY H. J. GIDDINGS.

1	Purple Martins became common.		
2	First Field, Vesper and Chipping Sparrows		
3	and Yellow-bellied Woodpeckers.	Weather mild but not warm	Grass begin- ning to start
4	First Orange-crowned Kinglet.		
5	Fox Sparrows increased.		
6	First Chewink, Fox Sparrows and Juncos		
7	very abundant.		
8	1st Ruby-crowned Kinglet, Winter Wren.	Cold and cloudy	
9	1st Cowbird, Fox Sparrows very common.		
10	Last Tree Sparrow seen, first Tree Swallow		
11	all birds rather scarce.	10 snowed 7 in. 11 snow all went	Vegetation making but little pro- gress
12			
13			
14	Chewink common, next cowbird and a single Bank Swallow.		
15	Fox Sparrows getting scarce.	Wet and cold	Heard the first toad
16	No apparent change in bird movement.		
17			
18	Cowbird and Tree Swallow common.	Heavy S. wind	
19	First Whip-poor-will.	Wind N. W.	
20		and very cold	
21	First Clay-colored Sparrow.	and heavy frost	

22	First Brown Thrasher, White-throated Sparrow; Clay-colored Sparrow increased and Whip-poor-will became common.	Wind mostly south and warm.	Vegetation making rapid progress; trees budding.
23	First Catbird, Rose-breasted Grosbeak, Purple Finch and Pine Warbler; White-throated Sparrow very abundant.		
24	First Myrtle Warbler, Chimney Swift and Kingbird.	Weather cold.	Willows and soft wood leafing.
25	First Lark Sparrow, not much change in other species.		
26	First Red-eyed Vireo, Lark Sparrow increased, first Red-head Woodpecker.	Weather cold.	Vegetation stationary.
27	First Scarlet Tanager, Cliff Swallow, Golden Warbler, Long-billed Marsh Wren, Oven Bird, Baltimore Oriole.		
28	First Barn Swallow, Tanagers increased, Orchard Oriole.		
29	First House Wren, Barn Swallow increased		
30	Silver Tanager common.		

We acknowledge with thanks the receipt of letters of encouragement and the promise of a helping hand from a number of ornithologists. For the benefit of these and the many others whom we believe are willing to help in the work, but for some reason have neglected to send in monthly reports, we will say that we desire that all reports on the spring migration to be in by June 15th. Wake-up brethren, lend a hand. We have a state organization that is second to none, either in regard to number of efficient workers or in past accomplishments. Three years ago, under the most discouraging words from such men as Dr. Morris Gibbs (hope he will pardon the personal mention), our official organ first appeared. Dr. Gibbs said "an ornithological magazine with a state name cannot stand; it has been tried." Through the united efforts of the members of the I. O. A., the *IOWA ORNITHOLOGIST* is still in the field and retains its high standard of usefulness. We may point with a pardonable degree of pride to our magazine, which stands alone in many of its "originalities."

So far, so good. However, we live in the present, not in the past. It then behoves us to push forward toward new achievements. No work could be more commendable than a state manual similar to Ridgeway's "Ornithology of Illinois."

Is there one among us that, during his early days of studying birds, did not look in vain for an inexpensive, yet accurate work on his chosen subject? Did we not in those days write to every one who was likely to know, inquiring if there was a work published on the birds of our state? There has been a long felt need for such a publication. Since the announcement that the I. O. A. had a committee preparing such a work, a large number of letters of inquiry have been received; questions as to "when will the book on Iowa birds be out?" "What will be the price?" "If you are taking advance subscriptions for the work, book me as a subscriber," and so on. We cannot as yet make definite answers to these questions. We will state that the book will contain brief but accurate descriptions of all Iowa birds, in addition to the profuse notes on their life history, so that it will be of value to the beginner as well as the professional ornithologist. At the present time the committee is simply waiting for the return of the check-lists sent out, and to gather together complete data on the bird migration of the state for 1897. This will add much—if a sufficient number of the members will contribute—to the value of the list. Without delay, send to the chairman of the committee what notes you have on '97 spring migration of birds at your station, however meager it will be of value. DAVID L. SAVAGE, Ch'm.



New books and other publications will be reviewed in this department. Authors wishing publications reviewed should send them to the Editor, who will examine them personally and give them due consideration.

"The Story of the Farallones,"—A beautiful souvenir published by H. R. Taylor, editor of the *Nidologist*. This is a new and admirable departure from the usual routine of presenting scientific facts. The souvenir is illustrated by near 30 superb illustrations, printed on heavy coated paper which makes them show to the very best advantage. The text is written by C. Barlow in his usual interesting style, and as one reads, he imagines himself with the writer beholding the wonders of this densely populated city of the birds. The publisher spared no time or expense to make it an elegant publication. You may obtain it of Mr. H. R. Taylor, Alameda, Cal., for 50 cents.

"The Osprey, edited by W. A. Johnson, of Galesburg, Ill., has been favored with the co-operation of Dr. Elliott Coues, "the greatest of all living ornithologists." He will contribute a department under the heading of "Dr. Coues' Column." We extend our congratulations to Mr. Johnson in being able to obtain this new feature, which cannot otherwise than be a great attraction to his already popular monthly. The April number contains half-tones of Dr. Coues and Mabel Osgood Wright. The articles are all well written and of great interest ornithologically. Although yet in its first volume, the Osprey stands among the best of ornithological publications and is well worth the subscription price, \$1 per year. It should be read by every bird student.

We were pleased to receive Bulletin No. 1, of the Michigan Ornithological Club, dated January, 1897. The M. O. C. is a pushing society of sixty-one members; eight honorary, thirty-seven active, and sixteen associate. Upon its membership roll are found the names of some of the most enthusiastic ornithologists in our country. This issue does not contain an article, note or news item but what was written by a member of the club. It is a credit to the bird men of Michigan and we wish it the success that its high standard so well deserves.

PUBLICATIONS RECEIVED.

"Biltmore Herbarium," C. D. Beadle, Curator, Biltmore, N. C., pp. 1-29.

"History of Paints, Pigments and Colors," Heath & Mulligan Mfg. Co., Chicago, 1897, pp. 1-72.

"The Story of the Farallones," by Barlow and Taylor, Alameda, Cal., 1897, 25 half-tones.

Auk, Vol. 14, No. 2; April, 1897.
 Bulletin of Michigan Ornithological Club, Vol. 1, No. 1, Jan., 1897.
 Canadian Natural Science News, Vol. 1, No. 1, Mar., 1897.
 General Notes, Bulletin Nos. 12-13, Wilson Orn. Chap. of A. A., Jan.-Mar., 1897.
 Le Naturaliste Canadien, Vol. 24, Nos. 1-4, Jan.-Apr., 1897.
 Museum, Vol. 3, Nos. 4-6, Feb.-Apr., 1897.
 Nidologist, Vol. 4, Nos. 6-7, Feb.-Mar., 1897.
 Oologist, Vol. 14, No. 3, Mar., 1897.
 Oregon Naturalist, Vol. 4, Nos. 1-4, Jan.-Apr., 1897.
 Osprey, Vol. 1, Nos. 5-7-8, Jan.-Mar.-Apr., 1897.
 Popular Science News, Vol. 31, Nos. 3-4, Mar.-Apr., 1897.

NOTES FROM FOREST CITY, IOWA.

I have been trying for the past two weeks to secure photos of Prairie Chickens "drumming," or "cooing" rather. We have a blind built on a hill-top and while under it in the evening, have seen them within six feet of us, cooing, with wings drooping, tail spread and orange-yellow neck-sacs expanded.

Added one more species to my list April 17th; a female Winter Wren. Length three and eleven-sixteenths inches, wing one and eleven-sixteenths, tail one and one-quarter, bill three-eighths, and tarsus one-half.

R. M. ANDERSON.



EXCHANGE COLUMN.

Brief special announcements "Wants" "Exchanges," "For Sales," inserted in this department free to all members of the I. O. A., and to all subscribers of the IOWA ORNITHOLOGIST. Dealers can use these columns at regular advertising rates only.

FOR SALE—A fine collection of carefully prepared bird skins, all strictly first-class. Will be sold at any price. Send for list. Box 421, West Haven, Conn.

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WANTED BAD.—Nidologist, Feb., 1894, 50 cents; and Oologist, April, 1889, June, 1888, July-August, 1886, January February, 1887 and January, 1894, 15 cents each. V. L. Beed, Hampton, Iowa.

AMATEUR PHOTOGRAPHERS—Sends your films and plates to me for development and for printing and finishing. Best work, lowest living prices. Wilmon Newell, Photographer, Iowa State College, Ames, Ia.

FOR SALE or exchange.—Two magazine cameras \$25.00 and \$3.00; a navy pistol \$12.00; an old fashioned revolver \$9.00, both six shot; also a turning lathe for wood \$5.00. Would like to have Indian war bow and arrows for lathe. Harry A. Harman, 311 D. and L. St., Danville, Pa.

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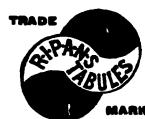
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.....Premiums for Subscribers.....

The president of the I. O. A. made some premium offers in the last IOWA ORNITHOLOGIST, but owing to the late less of that issue, it is thought best to extend the offer until May 1st.

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"Go forth under the open sky,
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The Iowa Ornithologist.

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NEST AND EGGS OF KRIDER'S HAWK.

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No. III.

NESTING HABITS OF KRIDER'S HAWK.

BY R. M. ANDERSON.

THE Krider's Hawk (*Buteo borealis kriderii*) is a geographical variety of the Red-tailed Hawk and is the lightest in color of the five sub-divisions of that species known to inhabit North America, occurring in the region from the Rocky Mountains to the Mississippi River, though very seldom found east of the Mississippi. This species is described in Ridgway's Manual of North American Birds as 'lighter colored than the Red-tail, with much white on upper parts, tail pale rufous (usually without the dusky sub-terminal bar), the lower parts entirely pure white or pale buffy only on thighs etc., with little if any spotting on belly. Eggs 2.81 x 1.80. Habitation, Great Plains, Minnesota to Texas; east irregularly or casually to Iowa and Northern Illinois.'

The first record of this species on the Atlantic coast was a specimen taken by W. W. Worthington at Supelo Island, Ga., February 16, 1888, identified by Wm. Brewster, (Auk, January, '89). In Southern Minnesota Mr. P. B. Peabody found several nests of the species during the spring of 1894, (Auk, January, '95). My first meeting with Krider's Hawk was on the 14th day of May, 1895, when I went out to visit an old nest which had been known to me for about three years and had been occupied by a pair of Swainson's Hawks the previous year. As I came near the tree, a large Hawk flew silently off the nest and away. She perched on a tree at some distance and occasionally uttered a scream as I was examining the nest, but when I started to climb down, the male Hawk also appeared on the scene, and while he perched on a tree some distance away, the female Hawk circled over my head within easy gun range, screaming angrily, then lit in a tree only two or three rods from the nest and remained there until I had reached terra firma, when she circled once around the tree and alighted again in the same place, only to drop at the report of the double-barrel.

For some time I thought my specimen to be only a light phase of the common Red-tail, but after an inspection of a large series of Hawks at the Smithsonian Institution and a conversation with Mr. Robert Ridgway, I concluded that the bird was none other than Krider's Hawk. I afterward sent it to the Smithsonian where the conclusion was verified, the bird being identified as *Buteo borealis kriderii*;—now at the Smithsonian Institution, accession 50869. This Hawk was much lighter than a Red-tail in my possession, the whole under parts being whitish with but a few brown streaks on belly, head streaked with dull light-brown and white, cheeks whitish, back and wings considerably mottled with pale and dark-brown and whitish. The tail was pale reddish brown, fading to a buff or creamy white near base; upper tail

coverts white. Iris, brown; feet, light-yellow; cere, pale greenish-yellow. L. 24, W. $15\frac{3}{4}$, T. $10\frac{3}{4}$.

The nest was a large bulky mass of sticks, the accumulations of years, and was lined with strips of bark and cornhusks; also containing a sprig of cottonwood or poplar with fresh green leaves, evidently just picked, and two other sprigs with the leaves somewhat withered; built fifty-one feet from the ground on a slanting Burr-oak tree. It contained two eggs advanced in incubation. The eggs resembled eggs of the common Red-tail, one egg being sparsely specked with light brown, the other with a number of large blotches of clear brown, chiefly around the larger end. Size, 2.44×1.94 ; 2.43×1.91 .

May 2, 1896, in Ellington township, Hancock county, in company with Mr. Earl Halvorsen, I again found the species "at home." The nest was in a Burr-oak tree, forty-six feet from the ground. The Hawk remained on the nest until I had rapped on the tree several times with a stick, when she flew off, circled around a few times and lit on a branch near the nest, in the same tree, before my companion had climbed up twenty feet. She sat there for nearly a minute, giving ye ornithologists a good view of her. The other Hawk arrived shortly after and they soared overhead uttering shrill screams, both Hawks finally settling in the same tree, about two feet apart, and remaining there while we were taking the accompanying photograph of the three beautiful eggs and nest "in situ"—a rather difficult feat, as the branches above the nest were exceedingly slender and much too flexible for a comfortable support. The nest, an old one, was about two feet across and built of sticks and one corn-stalk. The hollow of the nest was about nine inches across and was lined with strips of bark and a quantity of fine stringy bark, such as squirrels' nest are usually lined with. The nest contained a number of White Poplar twigs with young green leaves, also a number of bunches of soft white down. The eggs were beautifully marked with umber brown, yellowish brown and lavender and were slightly incubated.

April 26th, 1897, I took a set of three slightly incubated eggs, about two miles north of Forest City, from a nest $37\frac{1}{2}$ feet from the ground on an out-spreading branch of a Burr-oak tree. The nest was built this spring, of coarse Poplar and Oak twigs and lined with strips of bark and cornhusks, the lined part measuring about ten inches across and depressed about two inches. The eggs were whitish with small specks of dull brownish scattered over nearly the whole surface. The Hawk could be seen on the nest as I approached, but flew away when I was several rods from the nest, remaining away until I had climbed up to the nest, when she flew high overhead screaming a few times. For some time both Hawks sat near together on the same tree. Both Hawks were very wary and kept out of reach of the shotgun, which plan was certainly very conducive to longevity.

The following Saturday, May 1st, I went down into the Ellington woods. Passing by an old nest from which I had taken three eggs of the Red-tail, May 3, 1895, and three Great Horned Owl's eggs, February 22, 1896, nothing was visible but a pair of Swainson's Hawks soaring and screaming overhead. However I struck the tree with my climbing-irons and was somewhat surprised to see a Hawk dash off, whose pale reddish tail and whitish under parts showed it

to belong to the variety *kriderii*. Climbing the forty-eight feet intervening between the ground and the nest, I found it to contain three quite heavily marked eggs. The Hawks both soared high overhead screaming, but were very wary, and after waiting half an hour vainly hoping to obtain a specimen, I left the place, returning about six hours afterward. As I was crawling through a barbed-wire fence about a rod from the tree, the Hawk darted off the nest, and as she soared away I fired both barrels of the gun and she sailed down at an acute angle, being stone dead when picked up. This Hawk measured : L. 22, W. $15\frac{3}{4}$, T. $9\frac{1}{4}$. The stomach was entirely empty. The three eggs were slightly incubated. The nest was lined with what looked like old nests of Yellow Warblers and the like, hempen fibres, hair, etc., also a green Poplar twig.



The accompanying photograph is a view of the nest taken from the ground on February 22, 1896, at which time it contained three eggs of the Great Horned Owl. The picture shows the height to which the writer had climbed (about 36 feet from the ground) before the old Owl would fly from the nest.

On the same day I took another set of their eggs from a nest 35 feet up in a Black Oak tree. The nest was an unusually large one, nearly three feet across and two feet high, composed of sticks and twigs of Oak and Poplar (principally the latter) and lined with bark and corn-husks and some green Poplar sprigs. The hollow of the nest was about five inches deep. The three eggs were pale bluish, nearly unmarked and slightly incubated. The Hawk left the nest as I came near, was soon joined by her mate and they flew overhead frequently uttering a shrill "scree-ee." They would occasionally light in trees, but I could not come very near to them.

A peculiarity of this species is a fondness for having green leafy twigs in the nest (especially twigs of Cottonwood and White

Poplar), all nests which I have examined having one or more green sprigs. These sprigs must be renewed almost daily as they almost always appear fresh, withered or dead leaves being rarely found in the nest. This eccentricity seems also to be shared by the Swainson's Hawk (*Buteo swainsoni*).

THE AFFINITIES OF THE MNIOTILTIDÆ.

BY MORTON E. PECK.

Paper read before the Second Congress of I. O. A.

TO arrive at even an approximately correct conclusion as to all the relationship, near and remote, of any group of vertebrates, there is needed, not only a thorough examination of the life history and external ordinal family, generic and specific characters of every genetically related family, but also a careful anatomical survey of these families. The most important data for such conclusions are obtained from those aberrant or generalized types which unite some important features of two or more divergent groups. These so-called connective types are such as have preserved, in a more or less modified condition, some important structural points derived from remote ancestors less highly specialized than their living descendants. Among mammals such forms are the Lemurs of Africa and the curious Mouse Deer of Borneo. Among birds the Secretary Birds of Africa and the anomalous Hoazin of South America come under this category.

As we proceed to the more specialized forms, the affinities become more intricate and puzzling within a limited sphere. With the generalized types, the case is different. They are usually found to connect two or three very widely separated groups, but with no other evident connections. For example, the Secretary Bird is between the raptorial and wading birds, being placed doubtfully with the former. Beyond these two families it seems to possess no near relationships.

As we are to deal with one of the most highly specialized families of birds, and therefore one presenting the most numerous affinities and in the most varying degrees, it is unnecessary to say that no full treatment of the subject will be attempted; anatomical points will not be touched upon, and only the more salient external features briefly reviewed.

The Mniotiltidæ, or American Wood Warblers, are a well-defined family of small passerine birds, divided usually into eighteen genera, which comprise about one hundred and twenty species, though the exact number is not yet fully determined. Most of the species are elegantly formed and highly colored, graceful and active in movement, but rather weak in structure. The individuals are usually abundant, but a number of species are extremely rare. Geographically they are principally confined to North America, with but few distinctive South American forms. The most typical genera are those migrating across the United States.

Probably the most natural way of presenting the subject in hand is to take up each genus separately and trace its relationships to other groups, if such are found to exist. The necessity for proceeding by genera will at once be evident. An isolated species will frequently not show sufficient grounds for assigning it any particular place relative to some other family, while genera will usually be found to grade from the main family type toward some other. The order here followed is that given in Ridgeway's "Manual."

Mniotilta, of which the Black and White Warbler is the only species, is very distinct from the rest of the family in several important points, the most noticeable of which is the position of the head relative to the line of the vertebral column; that is, the beak falls almost in the line of the spinal axis. The latter is slender and has a very decided curve. These points, together with the bird's mode of life, show at once a close relationship to the Coerebedæ, or Honeycreepers of tropical America. Certain species of this family lean strongly toward the Mniotiltidæ, so that there is a point where the branches of the two nearly meet. The Coerebidae are not a highly specialized family and in Mniotilta we find, as we might expect, many generalized characters, likewise.

The genera Protonotaria and Helinaia show no determinable affinities to any other family; the family type reaches in them, therefore, a very high development. In both, the bristles about the gape are wholly wanting and the bill is strongly developed. In Protonotaria it is long, stout and slightly compressed; in Helinaia it is long, very acute and much compressed. Swainson's Warbler, the only species of the latter genus, has an indistinct line of yellowish or whitish on the forehead. The closely allied genus, Helmintherus, of which the Worm-eating Warbler is the only species found in the United States, has the bill but slightly compressed and the culmen considerably curved. The crown-markings, of which there was but a slight trace in the preceding, here become very prominent in the broad buff and black stripes extending over the entire head. These head-markings are characteristic of the family in its fullest development.

Helminthophila has the gape-bristles small or wanting and the bill small and very acute, with no curve. Crown-markings are nearly always present, though often partially concealed; they are wanting, however, in the Tennessee Warbler. The Blue-winged and Golden-winged have a patch of bright yellow covering the entire crown. Backman's Warbler has a black band across the anterior portion of the crown, and in the remaining species of the genus the crown-patch is orange, brown or chestnut. Yellow or yellowish-white wing-bands are sometimes present. In this genus cephalization of coloring, a peculiarity of the family, reaches its maximum, though the most brilliant colors have not yet been reached.

A tropical and sub-tropical genus, Oreothlypis, stands very close, structurally, to Helminthophila, the chief point of separation being the slighter difference between the comparative length of wing and tail relative to the length of the tarsus. The species *gutteralis* of this genus is plumbeous above with a triangular patch of black on the back; the chin, throat and breast are orange. In the species *superciliosa* the rump and back are olive, the throat and breast yellow, the chest with a chestnut spot.

In *Compsothlypis* the triangular black dorsal patch of the typical *Oreothlypis* is replaced by a similar patch of bright olive-green. In some species this is dull and indistinct. The Parula Warbler has, instead of a single chestnut spot on the chest, a large patch of mixed chestnut, black and yellow, with a patch of chestnut on either side of the breast. *Oreothlypis* has no white wing-bars, while in *Compsothlypis* these are usually broad and prominent; they are wanting, however, in the Central American Parula, and are very narrow in the Socorro Warbler. It is therefore seen that while structurally *Oreothlypis* stands very near *Helminthophola*, in coloration it grades as strongly toward *Compsothlypis*. Such closely connected genera are characteristic of all highly specialized families.

The genus *Dendroica* is the largest and most important of the family. It is here that the Warbler type, both in structure and coloration, reaches its perfect development. The most plainly colored species are those whose generic characters are doubtful or not strongly marked. The beak is stouter and less acute than in the three preceding genera and the bristles about the gape are well developed. The species present such an endless variety of markings that it is difficult to trace any particular pattern running through all. The sides of the breast, however, are nearly always streaked with black, blue or olive on a paler background. Wing-bars are present or represented in nearly every species; in the Palm, Prairie, Kirtlands and Cuban Pine Warblers, however, they are wanting. In the Yellow Warbler they are merely indicated by the brighter color of the tips of the wing-coverts. Two species, the Yellow-throated and Palm Warblers, barely hold their place in the genus, and the latter at least should probably be separated. The Yellow-throat has the beak large and much compressed and quite acute, with the bristles very small. The Palm Warbler leans strongly toward *Seiurus* in many of its habits and both species resemble *Seiurus* in having the tail nearly as long as the wing. These points are not sufficient grounds for placing them in that genus, however. If separated from *Dendroica*, they should stand between the two in a new genus.

Seiurus presents some characters which are very suggestive in tracing the affinities of the family. The genus embraces four species, three of which are North American, and all of them large, stout Warblers, plainly colored, with a close external resemblance to the Thrushes, whence their names. They are all terrestrial in habits, seeking their food principally on the ground. In general character they do not differ greatly from the preceding genus. The tail is never much shorter than the wing and sometimes longer. The plumage is plain olivaceous or brown above and whitish beneath, conspicuously streaked with dusky. The crown may be streaked as in the Oven Bird, or plain. In habits this genus so closely resembles the *Motacillidae*, or Wagtails, that some of the older ornithologists placed them in that family. It is true that the mere mode of life of any animal is usually regarded as of little or no value in fixing its place in a system of classification, yet within certain limits of structural resemblance, strongly marked habits should not be disregarded. In this case the movement of the tail and the ambulatorial gait in walking show an unmistakable close genetic connection with the Wagtails. The structural differences consist mainly in the great lengthening of the tertials, tail and hind claw of the

latter, but *Seiurus* shows some tendency in this direction, which, taken with the foregoing features, seems sufficient to establish the relationship beyond question. The beak in *Motacillidæ* is very variable, and in some cases does not differ greatly from that of *Seiurus*. In coloring there is little to suggest relationship.

It is here in place to mention the uncertain affinity existing between the *Mniotiltidæ* and the immense family of *Sylviidæ*, which embrace the Old World Warblers and our Kinglets, Gnatcatchers and Kennicott's Willow Warbler. The *Sylviidæ* are such a heterogeneous and ill-defined family that it would not be practicable here to enter into a discussion of the degrees of similarity between the various branches of the family and *Mniotiltidæ*. *Seiurus* is the only genus with which we can allow them any connection, and here too may be mentioned some vague relationship with the *Turdidæ*, or Thrushes, and *Cinclidæ*, or Dippers. These affinities are all so hypothetical that they cannot be said to greatly influence the relative position of the family.

In external characters the genus *Geothlypis* stands not far from *Seiurus*. The comparative length of wing and tail is about the same and the latter is rounded or graduated in both. The habits of the two genera present some similarities, among which may be mentioned the movement of the tail, which is very noticeable in the Kentucky Warbler. The colors in *Geothlypis* are usually bright and the plumage not streaked.

Icteria, of which the Yellow-breasted Chat is our only representative, is a widely aberrant genus and might almost be placed with the *Vireos*. This is the largest species of the family. The beak is short, stout and compressed, with the culmen strongly curved and a sharp ridge running more than half its length. The upper mandible curves over the lower, as in the *Vireos*, but is not hooked. It also resembles the latter in the well developed bristles and in the proportionate length of wing and tail. There is a very striking similarity between the coloring of the Chat and that of some *Vireos*, for instance, the Yellow-throated. Besides its *Vireo* affinities *Icteria* seems to show some genetic connection with the Tanagers, but this is more evident in the two following genera.

Teretistris, a genus comprising but two species, both confined to Cuba, has the beak stout and strongly curved as in the Tanagers, though not notched, and plumage inclined to yellowish or green as in many of the latter family.

Granatellus, a Mexican genus, has the beak more as in *Icteria*, but the plumage beautifully varied with plumbeous red and white.

Sylvania and *Setophaga* may be taken together as the two genera, structurally, related very closely to the *Tyrannidae*. *Sylvania* does not greatly diverge from the family type except in the marked development of the bristles about the gape and the broad, depressed beak; there is nothing suggestive about the coloring. These structural characters are greatly emphasized in *Setophaga*; in fact, some of the Redstarts have almost the typical *Empidonax* beak. In habits they are essentially tyrannidine. The coloring suggests little, though red is more characteristic of certain Flycatchers than of the Warbler family.

The two genera *Cardellina* and *Ergaticus* bear a strong resemblance to the *Paridæ*, or Titmice, in the structure of the beak and length of tail, but it

would scarcely be safe to say that there was any close genetic relationship between them.

Basileuterus and *Euthlypis* seem to point back to the *Setophaga* type with Flycatcher affinities, though in plumage they resemble the more highly specialized genera.

This completes the list of genera and probably all the near alliances have been touched upon, though of course it cannot be claimed that each has been given its due prominence.

Perhaps no other well-defined family of birds shows more varied and intricate relationships; they embrace a considerable number of widely separated families in both sub-orders of the Passeres.

Let us now turn for a moment to the geographical distribution of the group and afterwards draw our conclusions as to its probable origin and past history.

The absolute range of the Warblers extends from the arctic region to Chili and Bolivia, but comparatively few species cross the equator. Now, leaving out of account the annual migrations of the northern species and considering the breeding range as the true habitat, the whole territory of the family may be divided into two well-defined regions. The boundary line between these regions extends from the coast of Texas about one hundred miles north of the southern boundary, through southern New Mexico and Arizona, reaching the Pacific Ocean at the southern extremity of California. It will be seen that this line is at least a thousand miles north of the southern point of the Nearctic Region as defined by Wallace in his "Geographical Distribution of Animals." Not only the species, but also the genera are almost wholly different in these two regions. This will be clearly shown by the following tables, the genera with the number of species characteristic of each region being given with the number of species found in the other.

NORTHERN REGION.

Genera.	Total No. of species.	Species confined to northern R.	Species common to both.	Species confined to southern R.
<i>Mniotilta</i>	1	1		
<i>Protonotaria</i>	1	1		
<i>Helinaia</i>	1	1		
<i>Helminthophila</i>	8	7	1	
<i>Dendroica</i>	36	21	2	13
<i>Seiurus</i>	4	3		1
<i>Icteria</i>	1	1		
<i>Sylvania</i>	5	3		2
Total	57	38	3	16

SOUTHERN REGION.

Genera.	Total No. of species.	Species confined to southern R.	Species common to both.	Species confined to northern R.
<i>Oreothlypis</i>	2	2		
<i>Compsothlypis</i>	6	5		1
<i>Geothlypis</i>	11	7		4
<i>Teretistris</i>	2	2		
<i>Granatellus</i>	4	4		
<i>Setophaga</i>	15	14		
<i>Cardellina</i>	1	1		
<i>Ergaticus</i>	2	2		
<i>Basileuterus</i>	22	22		
<i>Euthlypis</i>	1	1		
Total	66	60		6

These figures are very interesting and significant. In the first place, they show a well marked geographical division of the family into two nearly equal parts or sets of genera. Further, it will be noticed that the four most highly specialized genera, *Protonotaria*, *Helinaia*, *Helminthophila* and *Dendroica*, are characteristic of the northern region, though thirteen of the thirty-six in the last are confined to the southern. *Oreothlypis* and *Compsothlypis*, the most

highly specialized of the southern genera, still stand considerably below these four. Again, all those numerous forms showing Flycatcher affinities, with the exception of three species of *Sylvania* and one of *Setophaga*, are confined to the southern region.

Now it will be remembered that the order of Passeres is divided into two sub-orders, Clamatores and Oscines. The former of these embraces but two families, the Tyrannidæ and Cotingidæ the Tyrannidæ may be taken as the type of the sub-order, as they show, in general, less affiliation with the Oscines.

Finally, as regards the origin of the Mniotiltidæ, the consideration of these facts would lead us to adopt one of two theories. Either they originated somewhere in the southern region and at a period not much subsequent to the separation of the order of Passeres into the two sub-orders, considering the close affinities of some genera with the Tyrannidæ, from which starting point the more highly specialized genera moved northward into temperate America, while the more generalized forms, those retaining the tyrannidæ characters, remained in the southern region; or on the other hand they originated in the manner in the northern region and the tyrannidæ types, with other less specialized genera, moved southward. From the fact that the whole sub-order Clamatores, with the exception of a comparatively few species of Tyrannidæ, are confined to the southern region, we would at first be led to conclude that the birth place of the family must have been there, but a closer consideration of the facts go to prove the contrary. It is generally believed, from a broad study of distribution, that the Passeres originated in the north temperate zone, where nearly all of the most highly organized forms of animals took their rise. The Passeres are the most perfectly organized and specialized of all birds and there is little reason to doubt that they follow the general rule. Again, let it be remembered that the Mniotiltidæ originated not very long subsequent, in all probability, to the separation of the order into the two sub-orders, therefore before a general movement southward is likely to have taken place. Further, it is reasonable to suppose that where great physical changes would not necessitate a universal migration, the most highly specialized forms would be found where the family originated, for as species and individuals became numerous and the struggle of life more severe, those adapting themselves most readily to conditions, that is, those becoming most specialized would drive out the less adaptable, that is, the more generalized, which would be compelled to migrate into localities not yet occupied by species having a similar mode of life. It is probable that at the time the Mniotiltidæ became a separate family, a much warmer climate prevailed over the northern hemisphere than at present, but as the climate became more rigorous, the less hardy forms, which are of course the more generalized, would be driven southward, along with most of the Tyrannidæ, into those tropical regions where we now find them. In this movement would also be included most of those showing close relationship to the Tangaridæ, which are very susceptible to cold.

But, it may be asked, how are we to account for a number of highly specialized forms in the southern region and of generalized in the northern? It seems surprising rather that there are not more of these exceptional cases than really exist, when we come to consider the immense migratory range of the family.

Nearly all the northern species in their southward migration pass into Southern Mexico, Central and South America. Abundance of special kinds of food and other favorable conditions in their winter home may have induced individuals to remain there occasionally through the year, and so, the habit once formed, migration northward would gradually decrease and finally stop altogether. Similarly, individuals of southern forms might have pushed northward by degrees, led on by favoring conditions, till at last whole species would be induced to migrate and their present range would be reached. Such changes of habitat have gone on even under human observation.

Such seems the most plausible theory of the origin, past movements and present distribution of this most interesting family of birds. Further research and by more experienced students of distribution may give a simpler and more satisfactory solution of the intricate problems here briefly touched upon, as also further anatomical companions may reveal much that is new and valuable in regard to the relationships before discussed, but for the present we will be compelled to rest on these results of a few somewhat superficial and hasty observations and researches.

THE PIED-BILL GREBE—(*Podilymbus podiceps.*)

BY CARL FRITZ HENNING.

THE Pied-bill Grebe, or Hell Diver as it is commonly called, in this locality is known to almost every boy. Arriving here during the first week in April, they remain with us until late in October. When we have an early spring, the dalchick makes his appearance in March.

In the spring of '94, trees and shrubs were budding by the 9th of March and our friends the Bluebirds warbled their notes of joy from the tree-tops. By the 25th we had a cold snap and on the 26th a farmer boy brought a Pied-bill Grebe into our store, having captured it that morning in a pond frozen in the ice—making it necessary for the boy to cut the ice around the Grebe with a knife to release the poor bird from its icy prison. During the spring and fall migrations the Pied-bill Grebe are plentiful, hundreds feeding at Clear lake and Cairo lake (Mud lake) in the adjoining counties north. In Boone county, they breed in suitable localities—nearly every large marshy pond has a pair of these truly beautiful Grebes.

All the nests that I have found were uniformly formed of partially decayed reeds, rushes and grasses, mixed with mud and debris brought up from the bottom of the pond. The nest is usually fastened to aquatic plants and oftenest placed where the water is deepest, but so well concealed that it is rarely found. The number of eggs in a full set is usually seven, rarely nine. In the *IOWA ORNITHOLOGIST*, Vol. one, page 44, my fellow member John V. Crone says: "The eggs are almost invariably found covered and incubation most likely proceeds without the aid of the parent bird." My brother ornithologist may have found more nests of the Pied-bill Grebe than I, but my observations differ from his. The eggs that I have found were only partially covered and several nests with

eggs that I have found lately were not covered at all. A fine set of nine (9) collected by myself May 20th of this year in a pond half a mile east of my home did not have a single grass blade for covering.

When feeding, the Grebes stay away from their nest a long time, often going long distances to find their favorite food, and may then cover their eggs with decaying vegetation in order to keep them warm until their return to the nest, or when alarmed she may hastily cover the eggs for protection, but I hardly think that the eggs are incubated by "heat generated by the decaying vegetation which usually composes the nest," although most writers claims this to be a fact. In a letter received from my esteemed friend Dr. Elliott Coues, Washington, D. C., January 28th, 1894, in reply to my inquiry regarding the nesting and breeding habits of the Pied-bill Grebe, writes me as follows: "The Grebe you name hatches its eggs mainly by animal heat to which that of decaying vegetation can add but little if any."

EFFECT OF THE SEASON ON MIGRATION.

BY H. J. GIDDINGS.

IN studying migration, one of the principal questions to present itself is the effect of the season on the movement of the different species. And that the changes in the season, one year with another, does influence the movement of the different species is well proven. Although what that power is which compels the various species to take up their annual march with the season each year, varying from a short distance in some species to thousands of miles in others, still remains undiscovered. In my opinion this impulse can be partly accounted for by the general restlessness of the different species which causes them to be continually on the move, except during the breeding season.

The present season has been remarkable here for the large portion of cold weather interspersed with a few warm spells of a few days at a time, which would lead us to look for some unusual effect upon migration, and that is what we find, at least with regard to some of the less hardy species. On a comparison of my notes of the present season with those for the past eight years I find that while stragglers of a good many species came as early as usual, the bulk of most species did not follow as closely behind the first as usual, and a few species which usually summer here in quite considerable numbers have almost failed to put in an appearance.

With regard to the Warblers there wasn't any time when they were present in any great numbers, but came straggling along a few at a time and never enough present at one time to make much of a showing, and what were present were unusually quiet. All of the more hardy species came about as usual and at about the average time. The following is the date of arrival of some of the most common species that arrived at about the average time: March 10, Mallard, Pintail, Robin, Bluebird; March 11, Canada Goose, Meadowlark, Wilson Snipe, Rusty Grackle; March 12, Redwing Blackbird; March 14, Bronze Grackle; March 16, Song Sparrow; March 22, Phoebe, Flicker, and a single

male Purple Martin, which was the earliest record for this species that I have ever made and notwithstanding that the weather turned very cold and there came two snow storms after that, he remained right along; March 29, White-rumped Shrike; March 30, Fox Sparrow; April 1, Field, Vesper and Chipping Sparrows; April 19, Whippoorwill; April 22, Brownthrasher; April 28, Scarlet Tanager. I give the above as a sample of the species that appeared at about the usual time and became common in the usual time after arrival. This is only a partial list of such species, but enough to illustrate the point. The following species came straggling along: Towhee, first seen Apr. 6, which is very late for this species; did not become tolerably common until Apr. 14 and was not present in its usual numbers before the last of the month. Cowbird, first seen Apr. 8, about an average date, but they did not become fairly common until the 18th and was not present in the usual numbers before the 24th inst. Red-eyed Viero, first seen Apr. 28, straggled along until May 12 before it was fairly common, and is not present in its usual numbers yet, June 19. Golden Warbler, first Apr. 28, tolerably common May 7; this species usually comes nearly in a bulk. Black and White Warbler, first seen May 1; no more until May 14, never appeared common. Orchard Oriole, first Apr. 29, a single bird; was not common before May 10. Baltimore Oriole, one bird seen Apr. 28, no more for several days; did not arrive in the usual number until May 12; this species usually arrives nearly in a bulk. Dickcissel, first, a single bird May 5, next a single bird May 9, became common about a week later. Chestnut-sided Warbler was not seen until May 6, a late date, and was only fairly common three days later, and the bulk of the species did not appear for some time after. Tennessee Warbler did not make its appearance until May 10, a very late date for this species, but they all came at once and were present for ten days. Yellow Throat was not seen until May 15, the latest date for the species I have ever recorded, and then they did not become common before the 20th. Yellow-billed Cuckoo, was not seen before May 11, when a single bird was seen, but no more until May 20, and only a very few has been seen this season. Wood Pewee, first seen May 16, about ten days later than the average; they were common three days later. Ruby-throated Hummingbird, first seen May 12, not much behind the average, but with the exception of a few stragglers, the species was not present until two weeks later when they became common. Heretofore I have always found this species common at the time of the flowering of the wild Columbine, but this year the Columbines were in full bloom when the first arrived. Bell's Vireo, one was seen May 10 and another May 14 which is all of this species that I have seen the present season. Heretofore this has always been a common breeder here. Yellow-breasted Chat, first seen May 9 and a few more May 16. This bird also has failed to locate in their usual haunts and up to the present time I have failed to find a single pair nesting, nor have I heard a bird for some time. Kentucky Warbler has nested here during the past few seasons, but this year none have been seen or heard. This being about the northern limit of this species, doubtlessly it has not advanced this far the present season. I think the foregoing examples, although but a few, will serve to show that the season just past had an unusual effect upon the movements of some species.

THE PRAIRIE HEN—(*Tympanuchus americanus*).

BY WILMON NEWELL.

THIS beautiful game bird is a native of the Mississippi valley from Louisiana to Minnesota, and from Wisconsin on the east to New Mexico and Nevada upon the west, being most abundant in the western and north-western portions of this area. This bird is well known to naturalists and ornithologists and there are very few collections that do not contain one or more specimens. For this reason a description of the bird is here unnecessary.

The Prairie Hen is a common resident throughout the state of Iowa, but is most abundant along the northern and western borders. Fifteen years ago the Prairie Chickens (commonly so-called) were exceedingly abundant in Sioux county, but for several years sportsmen from Minneapolis and Chicago made this locality their headquarters. The consequences were that the chickens suffered great slaughter and were very nearly exterminated. Of course this scarcity soon disposed of the city sportsmen and their machine guns. The chickens have suffered very little from the local nimrods and have of late years steadily increased. At present (making a rough estimate) we have an average of from four to eight chickens per square mile. Of course I do not say that you will find chickens upon every section, for the habits of the bird would knock this theory out of the box.

During the winter the chickens gather in flocks of from twenty to seventy-five, each flock ranging over an area of from four to six square miles. They are exceedingly wary during the winter and it is impossible to get within gun-range of them. Occasionally a single bird will become separated from the flock, and in such cases the bird may sometimes be flushed from the grass or stubble and thus be secured. Throughout the winter they feed upon corn, wheat and such chance grains as they may find. The cornfields however are their main reliance. At this season they roost in the bunches of long slough grass or in the snow in the immediate vicinity. Each bird will hollow out for himself a hole in the snow, merely large enough and deep enough to nicely protect him from the wind. Here he stays over night as snug and warm as you please. It would seem that the drifting snow would cover and suffocate them but I have never known of such a case, probably because the roosting places selected are comparatively open and there is very little to hold the snow. At this season of the year the Prairie Chickens suffer very little from their natural enemies, but many are killed by flying against telegraph wires and barbed-wire fences during heavy snow storms or high winds. The Prairie Chickens remain in flocks until the breeding season and then separate. As soon as spring opens the continuous "Bom-Bom-Boo-o" of the roosters and the cackle of the hens can be heard any morning in the neighborhood of an upland meadow, and to the naturalist and lover of Nature it is music indeed.

The Prairie Hen nests in the tall slough grass as a rule, but I have often found nests in tall stubble. Occasionally a nest is found in an exposed position, where there is little or no grass. Before the north-western part of the state was

settled up, the birds nested upon the uplands as well as in the sloughs and when the prairie was burnt over in the spring thousands of eggs and even many of the old birds were destroyed. After such fires I have seen as many as four nests to the acre on an average. The eggs are sometimes used by the farmers for food. The nests are built between the middle of April and the forepart of May. However the time will vary, owing to whether or not the spring is warm and dry. The number of eggs in a clutch varies from six to twelve, seven or eight being the average number.

The young chickens when hatched are beautiful downy little fellows, white with markings of brown. They are ready for business as soon as they get out of the shell, and the way they start off on their little legs is surprising to say the least. If the eggs are hatched under a tame hen the young birds will pay absolutely no attention to their new parent and as soon as they get a chance they start off on a steady trot, with a determination to get away at once. Pick one up if you will, as soon as you put him down, away he goes. I have tried to keep them by putting them in a large grassy space inclosed with boards but it won't work. The little fellows will start that steady dog-trot and they'll make a beaten path around the inclosure in a few hours. They refuse to partake of food in captivity and of course their steady running soon kills them. After trying all sorts of schemes to domesticate the Prairie Hen I have long since given it up with disgust and common sense.

As to how the chicks act when hatched under their natural parent I am unable to say. However I have observed a mother hen with her chicks upon several occasions. The mother hen in her habits greatly resembles our own tame biddy. She hunts food for her family of ten or a dozen and keeps them around her with a peculiar "cluck" which differs much from the clucking of a tame hen. If alarmed, the mother hen gives a quick, warning cry and like a flash the whole family, mother and all, will be scattered far apart and each one will be snugly hidden in the grass. While the chicks are small and unable to fly the family rarely leaves the tall slough grass. About July 1st the young birds are able to fly short distances and they then betake themselves to the fields of uncut grain. By Sept. 1st all the birds are expert flyers and now doth the sportsman appear to work damage among them. The flock stays together until winter time when all the chickens of a neighborhood gather together in a single flock.

MANCHESTER, 1897.

YOU WILL BE WELCOME.

THE Iowa Ornithological Association will convene August 11-12-13, 1897, in the Congregational church at Manchester, Iowa. This, the third congress, promises to be far the best attended, and therefore the most interesting, of any meeting ever held by Iowa ornithologists.

The congress will open with an informal session, Wednesday morning, Aug. 11th, for the purpose of becoming personally acquainted with each other and

for discussing any subject pertaining to our chosen study—ornithology—that may present itself at the moment. This cannot fail in being one of the most enjoyable and profitable meetings of the congress and members should make every possible effort to arrange their work so as to be present at this session.

At the following sessions the Association will proceed with the reading of scientific papers—i. e. ornithological—which will be of consummate interest to all present. All members that attend will participate in the discussions which follow the reading of each paper. Among the subjects that will be presented will be found “The Use of the Camera in Ornithological Observations,” “The Closely Related Species of the Wrens and Shrikes,” also many others of equal interest. One session will be given over to the discussion of “Ways and Means of Observing and Collecting Ornithological Specimens and Taxidermical Work.” Every member will come prepared to give at least one new “wrinkle” in collecting and preparing material or on observations.

The report of the compilation committee, with following discussions, will form a session of not the least interest. It is anticipated that before another congress the catalogue “Birds of Iowa” will be ready for publication. The question of how, when and where will this be published will be thoroughly discussed and a decision passed. The public session will not be omitted, at which a number of papers of both a popular and scientific nature, will be read.

It is designed to make this one of the greatest scientific meetings ever held within the state. The leading ornithologists of Iowa will be there and all cannot fail to be benefited by what they hear.



New books and other publications will be reviewed in this department. Authors wishing publications reviewed should send them to the Editor, who will examine them personally and give them due consideration.

“Some Common Birds” in their relation to agriculture, by F. E. L. Beal. This is a continuation of the inestimable work being done in economic ornithology by the Biological Survey of the U. S. Dept. of Agriculture. This bulletin contains the results of systematic investigation of the food habits of about 30 of our grain and insect eating birds, belonging to ten different families. The limit of the bulletin precludes giving more than a very brief statement regarding the food of each species. The past investigation of this department has placed an economical value on birds that were previously thought to be injurious in their relation to agriculture. May this systematic work be continued, for indeed more commendable work could not be done than to teach the agriculturists which are his feathered friends and how to protect them, as well as how to guard against the attack of his foes.

"Cooke's Birds of Colorado." The work sets fourth the present knowledge of the distribution and migration of Colorado birds. There is also included a bibliography of the subject and an historical review of the progress of ornithological investigation in the state. The total number of species and varieties of birds known to occur in Colorado is 360, of which 228 are known to breed. This is a larger number of species than has been taken in any state east of the Mississippi, and is exceeded by only one state of the Union, that is by Nebraska by nearly 400 species. The copiously annotated list of 360 species is arranged in accordance with the classification of the A. O. U. check list. The A. O. U. number is omitted and only the successive numbers of the birds found in Colorado are entered. Preceeding the list proper, the species are classified in the following manner: residents 87, regular winter visitants from the north 24, regular breeders that sometimes occur in winter 17, rare or accidental winter visitants 22, summer residents 228, summer visitants not known to breed 15, migrants 58, stragglers 48, regular visitants from east and south-east 14, rare visitants from east and south-east 33, regular visitants from west and south-west 20, rare visitants from west and south-west 12. It would have been preferable if the author had placed the 48 stragglers or doubtful species in a seperate list instead of placing them in the body of the work. As a whole, the work is a valuable contribution to the ornithological literature of Colorado. Mr. Cooke displayes rare skill and efficiency in its preparation.

PUBLICATIONS RECEIVED.

Beal, F. E. L., Some Common Birds, in their relation to agriculture. (Bull. No. 54, U. S. Dept. of Agriculture, 1897, pp. 1-40, 22 figs.)

Cooke, W. W., The Birds of Colorado, (Bull. Colorado Agr. Exper. station, No. 37, pp. 1-143, March, 1897.)

Bulletin, Michigan Ornithological Club, Vol. 1. No. 2, April, 1897.

"General Notes," Bull. Nos. 14-15, Wilson Orn. Chap. of A. A., May-July, 1897.

Le Naturaliste Canadien, Vol. 24, Nos. 5-7, May-July, 1897.

Museum, Vol. 3, Nos. 7-9, May-July, 1897.

Nidologist, Vol. 4, Nos. 8-10, April-June, 1897.

Oologist, Vol. 14, Nos. 4-6, April-June, 1897.

Oregon Naturalist, Vol. 4, Nos. 5-7, May-July, 1897.

Osprey, Vol. 1, Nos. 9-11, May-July, 1897.

Popular Science News, Vol. 31, Nos. 5-7, May-July, 1897.

Recreation, Vol. 6, No. 6, June, 1897.

Stories from Nature, Vol. 1, No. 1, June, 1897.

Eight new members (seven active and one associate) have been admitted to the I. O. A. since the list published in the January, 1897, IOWA ORNITHOLOGIST. To active membership, Hall H. Thomas, Decorah; George C. Hoover, West Branch; Henry Elridge, Decorah; E. D. Carter, Berkely; John S. Kinner, Fayette; Frank Robertson, Fayette; Harris I. Smullen, Clinton and Bert H. Wilson, Rock Island, Ill., to associate membership.

NOTES AND NEWS.

Mr. Paul C. Woods writes that Ducks and Geese have been swarming by the thousands on the lakes and rivers near Spencer, Iowa, this spring.

Do not forget the date of the congress, Aug. 11-12-13, 1897. Come prepared to give your new ideas on collecting and preparing ornithological material and to demonstrate the same if practical. Come expecting to get new ideas.

On May 22nd, 1897, while at Ames, I collected a nest of the Woodthrush containing seven Cowbird eggs and three eggs of the Woodthrush. Incubation had just begun and all eggs were in the same stage.

H. H. THOMAS.

Mr. Rudolph M. Anderson of Forest City writes that he secured a fine series of Traill's Flycatchers, June 25, 26 and 29th, fifteen nests with eggs being examined. On June 12th he found seven nests with eggs of the Long-billed Marsh Wren.

Mr. Earnest Irons of Council Bluffs found his time limited while in Chicago therefore the idea of preparing the article on the "Field Columbian Museum" was of necessity abandoned. He has hoped to substitute this article with a record of his studies and conclusions on "The Hybrid Yellow and Red-shafted Flicker," but has not completed the last mentioned article. It will probably appear in the next issue.

The Carolina Rail—Sora or Ortolan, as it is variously called—is a common summer resident in Boone county and breeds in suitable localities. May 23 I found one set of six and one set of fifteen eggs. The nests were placed in coarse dense grass growing close to the edge of the slough; in shape, similar to the Red-wing's nest and placed about a foot above the water. The nest containing the fifteen eggs was a sight to behold, five or six eggs having piled on top of the others. In this locality the Sora Rail usually selects small but deep ponds for nesting sites. Have any of my friends found a larger set of eggs of the Ortolan?

CARL FRITZ HENNING.

EXCHANGE COLUMN.

Brief special announcements "Wants" "Exchanges," "For Sales," insected in this department free to all members of the I. O. A., and to all subscribers of the IOWA ORNITHOLOGIST. Dealers can use these columns at regular advertising rates only.

IOWA COLLECTORS—have on hand a limited number of lists of "Birds of Winnebago and Hancock Counties," which will be mailed, while they last, for 10¢ per copy. Rudolph M. Anderson, Forest City, Iowa.

TO ERCHANGE—I have sets with data of the following A. O. U. Nos. to exchange for other sets or for Indian reliques: 59, 202, 219, 221, 263, 316, 333, 444, 488, 497, 498, 595, 612, 705, 724, 755. P. C. Woods, Spencer, Iowa.

FOR SALE or exchange—Two magazine cameras, \$25.00 and \$3.00; a navy pistol \$12.00; an old fashioned revolver \$9.00, both six shoot; also a turning lathe for wood \$5.00. Would like to have Indian war bow and arrows for lathe. Harry A. Harman, 311 D. and L. St., Danville, Pa.

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The Iowa Ornithologist.

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Vol. III.

OCTOBER, 1897.

No. III.

ONE SMALL PIECE OF GROUND.

BY BURTIS H. WILSON.

Paper read before the Third Congress of I. O. A.

THE number of birds that may be found in a small area is legion—provided the character of the ground is sufficiently varied. In the northern portion of the city of Davenport, Iowa, just outside the thickly settled district, is a piece of ground, about two acres in extent, belonging to a florist, who, for several years, has not taken the care of his grounds that he did when he was young and doing a flourishing business. The grounds are divided nearly in half by the greenhouses which extend from east to west. Let us look first at the southern half.

From the green houses the land slopes toward the south-east the extreme corner being cut off by a little creek. This little corner is filled with a grove of small maples. From the creek to the southwest corner, the fence is lined with bushes and small trees, as is also the fence on the west side. North of the greenhouses the land is different. The north end fence is overgrown with woodbine and raspberry vines; next to it stands a "wind-brake" of several rows of maples, very close together and very tall, running the whole width of the grounds. Then at short intervals south of these trees are rows of small trees of many varieties, overgrown with vines, blackberry bushes, rows of currant bushes and flowering shrubs. Only the extreme half of the northern part of the ground is thus covered, the part next the greenhouse being devoted to flowers.

Taken as a whole these grounds are a paradise for birds, such as the Thrushes, Jays, Warblers, Vireos, Flycatchers, and above all the *Fringillidæ*. In the migrating season, hosts of Sparrows of all kinds, White-throated, White-crowned, Chipping, Field, Tree, Song, Swamp, Fox and the English Sparrows, Chewinks, Goldfinches, Grosbeaks, Purple Finches, and many others abound here. Among the rarer visitors during the migrations, I have noted one Harris' and one Clay-colored, both being seen in the bushes at the north end. The "windbrake" of maples is the home of many Woodpeckers, especially the Yellow-bellied, during the migrations. At one end of the row stand two or three evergreen trees with their bark pitted all over by these birds. Around the evergreens is a mat of berry bushes which is always full of birds. Among these maples, one spring, I flushed a Whip-poor-will several times and as this bird is quite rare here, I considered it quite a find. Blackbirds and Orioles are

very abundant, the former especially so in the spring. Among the thickets the Screech Owl finds seclusion by day and a plentiful supply of birds and field-mice at night. Here also the Great Northern Shrike makes his winter home and is always sure of a Tree-Sparrow, or if he goes into the next field he may vary his diet with a Horned Lark for dinner. In the little grove of maples at the south-east corner I flushed a Woodcock several times one hot afternoon in August. Here, too, I have seen a Marsh Hawk, and in one of the plumb trees near the south fence a Green Heron once ventured to alight. Speaking of Herons reminds me that I once saw a Night Heron alight in the top of a large boxelder standing by the little creek and about a hundred yards south of the little grove of maples. And also that during the migration one spring a boy found an American Bittern sitting in a brush heap just back of a house not more than a hundred yards south-west of the place I have been describing. The Bittern allowed itself to be captured and placed in a cage where I saw it a few days later. I might also state that in the bushes and small trees across the road and not a hundred feet distant from the small grove where I flushed the Woodcock, I have shot a Winter Wren, Long-billed Marsh Wren, Yellow-bellied Flycatcher and Black-billed Cuckoo. Furthermore, one very hot Sunday afternoon in July a Great Horned Owl, pursued by a mob of Blue Jays, paused for a few minutes in the top of one of the large maples which stand close by the florist's house.

These grounds furnished a good field for the Oologist. Here is a list of the birds I have found nesting on the premises and it is probable that this does not represent more than one-half the varieties which nest within its boundaries: Robin, Catbird, Brown Thrasher, House Wren, Turtle Dove, Bronzed Grackle, Baltimore and Orchard Orioles, Cedar Bird, American Goldfinch, Rose-breasted Grosbeak, Field and Chipping Sparrows, Yellow-bellied Cuckoo, Black-capped Chickadee, Bell's and Warbling Vireos, Yellow Warbler and last, but not least common, the Cowbird. I have seen the Maryland Yellow-throat with a worm in its bill and very much excited by my presence but was unable to find the nest. I give here a few notes from my journal:

1. May 22, 1895, Chickadee's nest, three highly incubated eggs, three feet from the ground in a hole in a rotten stump.
2. June 7, 1896, Orchard Oriole's nest, three fresh eggs, also one egg of the Chipping Sparrow. Nest twenty feet up in a Lombardy poplar, lined with hair like a Chipping Sparrow's.
3. May 27, 1891. Field Sparrow, three eggs of the Sparrow and two of the Cowbird. Nest on the ground under wild parsnip.
4. June 16, 1891, Bell's Vireo, four eggs. Nest three feet from the ground in a currant bush.
5. August 19, 1892. Yellow-billed Cuckoo, two eggs. Nest ten feet up in a maple sapling covered with grape-vines.

In another small maple sapling, a friend of mine once found a Goldfinch's nest containing spotted eggs.

These are only a few of the many notes I made in these grounds. Surely

this was a paradise for the small birds. I say was for the florist has at last had the place cleaned up; trees, bushes and vines cut down or trimmed and, since the place has returned to civilization, no more shall I visit it, for with the removal of the wild growth the most of the birds have also gone.

DISCUSSIONS.

MR. J. H. BROWN says he has visited the place of which Mr. Wilson speaks and it was indeed "a paradise for birds." But at the present time the place has been cleaned up and divided up and sold and now new buildings are being erected on the grounds.

Mrs. Triem speaks of a beautiful sight which she has visited; a valley where there are an immense number of birds, especially during the migrating season. [Perhaps Mrs. Triem can, in the near future, give us an extended account of her experiences and finds in this valley. ED.]

The fact that the White-crowned Sparrow is abundant near Davenport and quite rare at Burlington was mentioned by Mr. Brown, but he could give us no satisfactory solution of the question "why this was so?" He also thought that possibly the Chipping Sparrow's egg found by Mr. Wilson in an Orchard Oriole's nest, might have been a runt egg of the Oriole, as he has found a set of four of the Oriole's eggs which were no larger than Chipping Sparrow's eggs. And again, from the fact that the nest had a lining of hair, it may have been first built by the Sparrow which laid one egg before the Oriole chanced along and took possession; the Oriole refitting the nest and laying her eggs without molesting the Chipping Sparrow's egg.

Mrs. Mary L. Raun asks if the Cowbird and the Cuckoo are the only birds that lay in other birds' nests.

Mr. Brown states that the Cuckoos do not lay in the nests of other birds. Simply the two species of Cuckoos—the Yellow-billed and Black-billed—will occasionally drop their eggs in the other's nest. Of this occasional freak, Messrs. Law, Brown and Savage have made authentic observation.

Mrs. M. A. Triem remarks that she has seen the House Wren sitting on a set of English Sparrow's eggs, but she did not have the opportunity of revisiting the place and making further investigation. Therefore, it may have been that this little inquisitive Wren found the Sparrow's nest when the owner was absent and thought she would try her skill at incubating *Passer domesticus* eggs. [I dare say that the Wren disappeared quickly upon the Sparrow's return. I do not attribute enough reasoning faculty to these impetuous foreigners for them to become successful parasites. ED.]

Mr. J. Eugene Law spoke of the explanation of the "large sets," such as seven and eight eggs of the Crow, fifteen and twenty eggs of the Bob-white, as being the result of two females laying in the same nest. Probably this circumstance is indulged in by a much larger number of species and more often than

is usually supposed. He also mentions the late nesting of the Cuckoos, especially the Yellow-billed. He has found its nest with fresh eggs in as late as August 20th. Mr. D. L. Savage brings the date to August 25th and Mr. Brown found in one tree, on September 4th, a Dove's nest containing two fresh eggs and just above it a nest of the Yellow-billed Cuckoo in which were three slightly incubated eggs. Mrs. Raun found two young Mourning Doves in a nest as late as September 14th.

The diet of the Shrike was quite thoroughly discussed. Mrs. Triem was not aware of their eating Prairie Horned Larks, but had seen them catch Tree Sparrows. It was a unanimous decision that the barbed wire fences was a great boon to these birds; frogs, mice, Tree Sparrows and grasshoppers had been seen suspended from bars. Mr. Brown finds the Loggerhead at Davenport in equal abundance with the White-rumped Shrike. There is some question about his statement. He says this is an opening for systematic investigation, there is room for opinions on both sides. A number of our Wrens and Flycatchers should receive special attention also.

Mrs. Raun was very glad that Mr. Wilson brought such an interesting subject before us, and she is going to make a list of the birds she finds in the lawn near her home and give to us at the next congress. That will be some systematic work.

In speaking of investigation on birds near town, recalls to Mr. Law some of his early experiences. For a month or more a flock of Evening Grosbeaks fed daily within the corporations of Perry, Ia. Our ornithologist at that place was very desirous of obtaining a number of specimens, so he would arise before people were awake and shoot once or twice—not often enough to arouse any disturbance—but continuing this a few mornings, the desired number of specimens were obtained. Mr. Brown was not energetic enough to follow the above prescription, but he, with Mr. Paul Bartsch, devised a scheme which worked successfully in Iowa City. A flock of birds—Redpolls—were feeding on the weeds along one side of the college campus, Mr. Brown secured an air gun and carefully discharged it at convenient intervals, while his co-worker in an unconcerned manner followed behind picking up the birds. A satisfactory number of Redpolls were secured. Not unfrequently this means was resorted to when rare birds were in the neighborhood and always with success.

Mr. Brown, while speaking of the rarer birds mentions the Red Crossbill. He thinks that it is possible that this species may be found nesting in the state in some of the wilder sections. Mr. Law saw three females in May at Perry, Iowa, and he has observed them in September; he also has seen a specimen of Evening Grosbeak in June, in Dallas county, but it was undoubtedly a lost bird.

The question is asked, "How many species of Juncos do we have in the state?" There is no positive answer to the question, but a number volunteer to make thorough investigation and undoubtedly this question will be cleared up before another congress. Up to date there are no authentic records of but one species being found—the Slate-colored Junco.

SUMMER BIRDS OF THE ONEOTA VALLEY.

(JUNE, JULY, 1895.)

BY PAUL BARTSCH.

Paper read before the Third Congress of I. O. A.

NATURE as if to show mankind what the conditions in that great fertile region traversed by the glaciers in the ice age, scarred, planed and covered by a morainic deposit, would have been; left untouched a strip of land extending over south-eastern Minnesota, western Wisconsin and north-eastern Iowa—a region wild, romantic and beautiful, the dream of our landscape artist, the paradise of our naturalist.

This region within our bounds is traversed in the northern portion by the Oneota river and its tributaries—it is the avifauna of this tract that I wish to consider in the present paper.

As topographic environment is one of the prime factors in the distribution of many of our birds, it will not be amiss to briefly consider this feature of our chosen field.

The Oneota, though not as active as during glacial and preglacial time, is nevertheless working slowly and diligently to lower its channel throughout most of its course. The lessened amount of water causes the stream to meander through a wide flood plane bounded everywhere by high ridges and bold bluffs. One may get somewhat of an idea of the amount of work accomplished by the stream in course of time, if he considers that it has cut a gorge through the various formations from the Trenton down to about 300 feet below the summit of the St. Croix sandstone.

The little tributaries have been equally busy and even now seem to try hard to cut down through the opposing rocks to keep on the same level with the river. Not always able to accomplish this in a uniform manner, owing to differences of rock texture, many beautiful water falls and cataracts have been formed in their course. Not unfrequently the gorge cut by some small rivulet has intersected an underlying water vein* and the additional force has helped to grind and cut deeper the lower course of the stream and now a beautiful water fall tumbles noisily from the cliff.

Throughout the course steep hills bound the valley on both sides. Frequently perpendicular cliffs rise almost from the water's edge to a height of several hundred feet and where the Oneota lime stone comes to the surface, bold, bared, massive battlements crown the summit of the adjacent hills.

The valley is wide,—the floodplane constitutes the farming land of the region. The current varies with the formation; at places it is slack, then again

* I particularly have in mind Seever's spring, some two miles south-east of Decorah.

it races along rapidly over a series of shallows, almost cataracts, and it is such places that make the river rather difficult to navigate in anything but a portable canoe.

* If one ascends one of the eminences he will notice a succession of ridges scattered irregularly, and generally separated by some tributary of the Oneota river. All these elevations are of about the same height, most of them with rounded top and abruptly sloping sides—typical features of a country long subjected to the agents of water and mechanical erosion. Frequently, however, tall buttes with rounded tops and steep boulders[†] covered sides can be seen, sentinels in the centre of the valleys.

The north-eastern slopes of all these ridges and buttes are covered by a mixed forest composed chiefly of burr oak (*Quercus macrocarpa*, *Michx.*) hickories (*Hicoria ovata*, *Mill.*) Britt. and glabra (*Mill.* *Britt.*) and not unfrequently we find white pine (*Pinus strobus* *L.*) balsam (*Abies balsamea* *Mill.*) and Juniper (*Juniperus virginiana* *L.*) striving vainly for supremacy with the deciduous forest.

On the slopes bounding the river in Winnesheik Co., and for a little way in Allamakee, the white trunks of the Paper Birds (*Betula papyrifera* *Marsh.*) vie with the glistening boulders for conspicuousness and it is indeed beautiful to see the contrast of the white in the dark deep green of its surrounding.

The valley still retains some of the old giant patriarchs of the forest as man's axe has spared many, not on account of sentiment or love for the beautiful, for that indeed stands little show when the almighty dollar is the other consideration, but rather of their distance from a convenient port or place where they might be turned into lumber, the younger timber being more desirable for fire wood.

Giant elms, bass-wood, maples, hickories and oaks form the bulk of the timber and occasionally a sycamore stretches its ghostly branches above the other vegetation.

It is in these sylvan dells, where underbrush is scanty, that the Cerulean Warbler informs us of his presence, and the soft gradually fading veery-veery-veery of the Wilson's Thrush is offset by the bell-like tones of our woodland minstrel the Wood-thrush. The plaintiff note of the Wood-pewee, the chip-churrr of the Tanager and the daintily lisped song of the Redstart mingled with strophes from the Red-eyed and Warbling Vireo and harsher notes of the Flicker and Redhead greet you on all sides. The querulous rise and fall of the Blue-winged Yellow Warbler's song and an occasional chant of the Oven Bird not to be forgotten.

The reedy marshes with their lily covered lakes are choice places for the Red-winged Blackbird, Woodcock, Swamp Sparrow, Long-billed Marsh Wren, Killdeer and Plover, as well as the ever present Song Sparrow, the saucy

* View from bluff opposite "The Elephant," Sect. 32, Twp. 100, N. R. V. W., Allamakee county, Iowa.

† Boulders of disintegration not transportation.

Western Maryland Yellow-throat, together with a host of swiftly gliding Swallows, all bent upon the destruction of the luckless insect which may have stretched its wings for the first time in its first flight; emerging from the larval form and its watery home to an untimely death.

The notes given with the species in the following list were taken between June 11 and July 10, 1895, a time when most birds are stationary, i. e. the swaying back and forth of a few weeks previous to this date is practically at rest and most birds are intent upon domestic duties. It is therefore highly probable that most if not all of them breed within the area under discussion, though absolute proof is lacking in the majority of cases. I have noted in each case whether the bird was found in both Winnesheik and Allamakee counties or in only one of them:

(1)—*Larus philadelphia*. BONAPARTS GULL.

A small flock of these birds were seen skimming about the marshes near the mouth of the river. Allamakee Co.

(2)—*Lophodytes cucullatus*. HOODED MEGANSER.

Several of these birds were noted in the marshes near the Mississippi river. Allamakee Co.

(3)—*Aix sponsa*. WOOD-DUCK.

Several Wood-ducks were noted in our course down the stream and several more were seen in the locality cited for the Hooded Merganser. Winnesheik and Allamakee counties.

(4)—*Botaurus lentiginosus*. AMERICAN BITTERN.

A large number of these birds were observed in the marshes at the junction of the Chicago and Milwaukee R.R. and the Oneota river. Several were shot, among them a specimen which had lost one leg immediately above the tarsus. The birds undoubtedly breed here. Allamakee Co.

(5)—*Ardea herodias*. GREAT BLUE HERON.

Seen in the marshes near New Albin. Allamakee Co.

(6)—*Ardea virescens*. GREEN HERON.

Not a very common bird, but several were observed along the river—more plentiful as we approached the Mississippi. Winnesheik and Allamakee Co's.

(7)—*Philohela minor*. WOODCOCK.

This bird breeds at Decorah where I obtained several young. They were also met with in many other places farther down the stream and seemed to be fairly abundant,—perhaps there is little persecution from the sportsman which would account for their comparative abundance. Winnesheik and Allamakee counties.

(8)—*Actitis macularia*. SPOTTED SANDPIPER.

Very abundant throughout the range—young as well as old birds were seen

everywhere. Winnesheik and Allamakee counties.

(9)—*Ægialitis vocifera*. KILLDEER.

This bird was noted in the marshes at Decorah and near New Albin and also in several places between these points. On one occasion at quite a distance from the water. Winnesheik and Allamakee counties.

(10)—*Colinus virginianus*. BOB WHITE.

The Pleasing call of this species greeted us from many a meadow and field in our journey down the stream. Winnesheik and Allamakee counties.

(11)—*Bonasa umbellus*. RUFFED GROUSE.

Very numerous throughout the valley. Many broods were flushed and young in various stages, from a few days old to half grown, were obtained. They seemed to prefer the brushy slopes but were also quite abundant in the timber of the valley. Winnesheik and Allamakee counties.

(12)—*Meleagris gallopavo*. WILD TURKEY.

A few stray feathers from wing and tail of this species were found in the more remote portions of the valley which would indicate their presence, though no birds were actually seen. Allamakee county.

(13)—*Zenaidura macroura*. MOURNING DOVE.

Noted on the sand flats along the river where they seem to come for sand baths. Winnesheik and Allamakee counties.

(14)—*Cathartes aura*. TURKEY VULTURE.

Quite common along the valley, especially where the Oneota lime stone forms the cap, in the crevices of which I suppose they find suitable breeding places. Winnesheik and Allamakee counties.

(15)—*Accipiter velox*. SHARP-SHINNED HAWL.

Common; breeds in the crevices in the cliffs. The young are very noisy and usually betray the nesting site by their notes. I examined one of these abodes several hundred feet above the river in the cliff adjacent to the Chicago and Milwaukee R. R. near its junction with the Oneota, a little south-west of New Albin (Iowa Bluff), and found numerous wings of the smaller birds, such as Warblers, Black Birds, Meadow Larks, Song Sparrows, Flickers, Robins, etc., etc., as well as some bones belonging to small rodents, Spermophiles perhaps, scattered about the crevice. The young were large enough to vacate the residence when I made my appearance (July 5, 1895) and I had to be contented to gaze upon the amount of mischeif wrought by a family of these falcons. The Sharp-shinn surely has few redeeming features, when we consider the amount of havoc he causes among our small birds.

These birds were noticed to extend about forty miles up the valley and appeared to inhabit many of the exposures along the Mississippi valley as far south as Eagle Point Dubuque, where the last family was noted. Single birds were seen near Decorah, but no nesting site in cliffs was observed until we had

passed the boundary between the two counties. Winnesheik and Allamakee counties.

(16)—*Accipiter cooperi*. COOPER'S HAWK.

Apparently not so abundant as the foregoing, and confined more to the timber area. Three young and an addled egg were taken from a nest at Decorah. Winnesheik and Allamakee counties.

(17)—*Buteo borealis*. RED-TAILED HAWK.

Quite common throughout the valley. Not a day passed but what a number of these birds were noticed. Several young and adults were shot from the boat. Winnesheik and Allamakee counties.

(18)—*Buteo lineatus*. RED-SHOULDERED HAWK.

By no means as common as the last. Allamakee county.

(19)—*Buteo latissimus*. BROAD-WINGED HAWK.

Several of these birds were seen but none secured. Winnesheik and Allamakee counties.

(20)—*Haliactus leucocephalus*. BALD EAGLE.

A bird, which I took to be of this species, was seen flying about a cliff on June 28th, in Allamakee county.

(21)—*Falco peregrinus anatum*. DUCH HAWK.

A pair of birds which I am inclined to refer to this species were noticed sporting about one of the steep escarpments. The graceful swift movements and size cause me to believe that it must have been this master, as he is the only one able to perform such feats of wing. Allamakee county.

(22)—*Falco sparavius*. SPARROW HAWK.

Not common in the valley proper; only a few observed and these frequented the more exposed situations. Winnesheik and Allamakee counties.

(23)—*Bubo virginianus*. GREAT HORNED OWL.

Quite common; a young bird whose head was still covered with down was shot. The birds keep close to the water and on several occasions I flushed them in early morning from fallen trees which extended into the water. The fact that this happened repeatedly led me to believe that Bubo might at times vary his diet by catching a fish. Is it not possible that the fish might be attracted by his glowing eyes? Winnesheik and Allamakee counties.

(24)—*Syrnium mebulosum*. BARRED OWL.

Seems to be more restricted to the hills and hill-sides. Winnesheik and Allamakee counties.

(25)—*Megascops asio*. SCREECH OWL.

The querulous wailing note of this bird was heard many an evening in our

course down stream. Winnesheik and Allamakee counties.

(26)—*Coccyzus americanus*. YELLOW-BILLED CUCKOO.

Quite common but shy. Winnesheik and Allamakee counties.

(27)—*Ceryle alcyon*. KINGFISHER.

Not very common but generally distributed throughout the valley. Winnesheik and Allamakee counties.

(28)—*Dryobates villosus*. HAIRY WOODPECKER.

Quite common throughout the valley; young and adults were obtained in Winnesheik and Allamakee counties.

(29)—*Dryobates pubescens medianus*. DOWNTY WOODPECKER.

Very common everywhere. Winnesheik and Allamakee counties.

(30)—*Sphyrapicus varius*. YELLOW-BELLIED WOODPECKER.

Several families, old and young, of this bird were met with in the timber bordering the river. They seem to be partial to such locations as not a single bird was observed in any other place. Winnesheik and Allamakee counties.

(31)—*Melanerpes erythrocephalus*. RED-HEADED WOODPECKER.

A common bird in Winnesheik and Allamakee counties.

(32)—*Melanerpes carolinus*. RED-BELLIED WOODPECKER.

Not common and apparently restricted to the heavy timber. Winnesheik and Allamakee counties.

(33)—*Colaptes auratus*. FLICKER.

Common everywhere. Winnesheik and Allamakee counties.

(34)—*Antrostomus vociferus*. WHIP-POOR-WILL.

Judging from their notes, I should say that they were not very abundant. But this I believe is their silent season so the mere fact that they were heard will have to suffice for this record. Winnesheik and Allamakee counties.

(35)—*Chordeiles virginianus*. NIGHT HAWK.

Quite common in both Winnesheik and Allamakee counties.

(36)—*Chaetura pelasgica*. CHIMNEY SWIFT.

Common everywhere and I believe careful search would reveal some primitive nesting sights in trees. Winnesheik and Allamakee counties.

(37)—*Trochilus colubris*. RUBY-THROATED HUMMING BIRD.

Very common in both Winnesheik and Allamakee counties.

(38)—*Tyrannus tyrannus*. KING BIRD.

Common in both Winnesheik and Allamakee counties. Nests were found at Decorah.

(39)—*Myiarchus crinitus*. CRESTED FLYCATCHER.

This bird frequents the wooded valleys where its noisy call betrays its presence oftener than the sight of the bird itself. Winnesheik and Allamakee Co's.

(40)—*Sayornis phoebe*. PHOEBE.

Very abundant; nests were found under bridges and one in an old stump. Winnesheik and Allamakee counties.

(41)—*Cantopus virens*. ACADIAN FLYCATCHER.

Quite abundant along the water courses. Winnesheik and Allamakee Co's.

(42)—*Empidonax virescens*. WOOD PEWEE.

One of the most abundant summer residents. Its pretty nests were found in many places in both Winnesheik and Allamakee counties.

(43)—*Empidonax minimus*. LEAST FLYCATCHER.

These birds breed abundantly about Decorah where a number of nests were examined, some containing fresh eggs, some young. The nest is a beautiful structure built in the fork of some branch, usually only a few (6 to 15) feet from the ground. Winnesheik and Allamakee counties.

(44)—*Octoris alpestris praticola*. PRAIRIE HORNED LARK.

A few of these birds were observed in both Winnesheik and Allamakee counties. Usually their note, when on wing, notified us of their presence.

(45)—*Cyanocitta cristata*. BLUE JAY,

This noisy marauder was always present. Winnesheik and Allamakee Co's.

(46)—*Corvus americanus*. AMERICAN CROW.

Very common in both Winnesheik and Allamakee counties.

(47)—*Dolichonyx oryzivorus*. BOBOLINK.

Common in the rank meadows where the male pours forth his bubbling song, from reed or whilst he flutters in the air. Nests were found at Decorah. Winnesheik and Allamakee counties.

(48)—*Molothrus ater*. COW-BIRD.

Common in both Winnesheik and Allamakee counties.

(49)—*Agelaius phoeniceus*. RED-WINGED BLACK-BIRD.

Very abundant about the marshes, where a number of nests were found. None were placed more than four feet from the ground. Winnesheik and Allamakee counties.

(50)—*Sturnellu magna*. MEADOW LARK.

Quite common in the fields of the valley. Winnesheik and Allamakee Co's.

(51)—*Iterus spurius*. ORCHARD ORIOLE.

Abundant; nests throughout the valley. Winnesheik and Allamakee Co's.

(52)—*Quiscalus quiscula aeneus*. BRONZED GRACKLE.

Common in both Winnesheik and Allamakee counties.

(53)—*Icterus galbula*. BALTIMORE ORIOLE.

By far not as common as the last. Winnesheik and Allamakee counties.

(54)—*Spinus tristis*. GOLD FINCH.

Very abundant and feeding, apparently, upon seeds of the thistle (*Cnicus lanceolatus*), only at this time. Winnesheik and Allamakee counties.

(55)—*Poocetes gramineus*. VESPER SPARROW.

Next to the Song Sparrow, the most abundant summer resident. Breeds abundantly almost everywhere throughout the valley. The birds were in full song and would mount some stake or alight in a tree to deliver their pleasing notes. Winnesheik and Allamakee counties.

(56)—*Ammodramus savannarum passerinus*. GRASSHOPPER SPARROW.

The whirring note of this bird soon announced his presence and caused the death of several of them. Winnesheik and Allamakee counties.

(57)—*Chondestes grammacus*. LARK SPARROW.

Several of these birds were noticed on a bare hillside near a small stream. Allamakee county.

(58)—*Spizella socialis*. CHIPPING SPARROW.

Common, especially so about dwellings. Winnesheik and Allamakee Co's.

(59)—*Spizella pusilla*. FIELD SPARROW.

Common everywhere in Winnesheik and Allamakee counties.

(60)—*Melospiza fasciata*. SONG SPARROW.

By far the most abundant species throughout the valley. The song, though somewhat sleepy and not so varied as at an earlier period, was nevertheless very pleasant and it seems to me that not ten rods of ground were passed without hearing one or more of these birds.

(61)—*Melospiza georgiana*. SWAMP SPARROW.

Not very abundant; a number were seen in the marshes. They were shy and secretive. Winnesheik and Allamakee counties.

(62)—*Pipilo erythrophthalmus*. TOWHEE.

Very common on all brush covered hill sides. Nests were found in both Winnesheik and Allamakee counties.

(63)—*Zamelodia ludoviciana*. ROSE-BREASTED GROSBEAK.

Breeds commonly in both Winnesheik and Allamakee counties.

(64)—*Passerina cyanea.* INDIGO.

Quite common in both Winnesheik and Allamakee counties.

(65)—*Spiza americana.* DICKCISSEL.

Common in Winnesheik and Allamakee counties.

(66)—*Piranga erythromelas.*

Breeds abundantly in both Winnesheik and Allamakee counties. All the nests were placed in oak trees way out on the branches at varying heights.

(67)—*Progne subis.* PURPLE MARTIN.

Noticed about Decorah and New Albin and also about several of the farms between these two localities. Winnesheik and Allamakee counties.

(68)—*Petrochelidon lunifrons.* EAVE SWALLOW.

Common; several colonies were seen established on cliffs in Winnesheik and Allamakee counties.

(69)—*Chelidon erythrogaster.* BARN SWALLOW.

This graceful bird was met with everywhere. On one occasion a nest was found attached to one of the beams on the under side of a bridge. Winnesheik and Allamakee counties.

(70)—*Tachycineta bicolor.* WHITE-BELLIED SWALLOW.

Quite abundant along the river, more so in the marshy tracts. Winnesheik and Allamakee counties.

(71)—*Clivicola riparia.* BANK SWALLOW.

Nests commonly throughout the range. Winnesheik and Allamakee Co's.

(72)—*Stelgidopterix serripennis.* ROUGH-WINGED SWALLOW.

The rarest of the Swallows. Winnesheik and Allamakee counties.

(73)—*Ampelis cedrorum.* WAXWING.

Quite common along the valley. Winnesheik and Allamakee counties.

(74)—*Lanius ludovicianus excubitoroides.* WHITE-RUMPED SHRIKE.

Not very common; frequents the more exposed situations.

(75)—*Vireo olivaceous.* RED-EYED VIREO.

This bird is very common in the Oneota valley and quite a number of nests were found. Winnesheik and Allamakee counties.

(76)—*Vireo gilvus.* WARBLING VIREO.

Not as common as the last. Winnesheik and Allamakee counties.

(77)—*Vireo flavifrons.* YELLO W-THROATED VIREO.

This species is rarer than the preceding two. Nests at Decorah. Winne-

sheik and Allamakee counties.

(78)—*Mniotilta varia*. BLACK AND WHITE CREEPING WARBLER.

Common in the wooded portions. Young and adults were obtained. Winnesheik and Allamakee counties.

(79)—*Helminthophila pinus*. BLUE-WINGED WARBLER.

Not common; frequents the moist wooded portions. Winnesheik and Allamakee counties.

(80)—*Helminthophila chrysoptera*. GOLDEN-WINGED WARBLER.

Rare. Only a single specimen observed in a ravine about a mile or so south of Fairport. This was a male in full song. I waited and watched him carefully for some time hoping to be able to detect a nest, but in this I was disappointed. Winnesheik county.

(81)—*Dendroica aestiva*. YELLOW WARBLER.

Breeds commonly in the willows along the the river. Winnesheik and Allamakee counties.

(82)—*Dendroica rara*. CERULEAN WARBLER.

Abundant in the heavy timber along the water courses. Winnesheik and Allamakee counties.

(83)—*Seiurus auricapillus*. GOLDEN CROWNED THRUSH.

Common; breed abundantly on the wooded hill sides. Winnesheik and Allamakee counties.

(84)—*Seiurus moticilla*. LOUISIANA WATER-THRUSH.

Common; young and old were obtained. It is a pretty sight to see the parents lead the young at the water edge, encouraging them to enter and wade and calling them in when the current has proved too strong and has carried the fluttering chap down a little ways. Winnesheik and Allamakee counties.

(85)—*Geothlypis trichas accidentalis*. WERTERN MARYLAND YELLOW-THROAT.

The most abundant of the Warblers. His lively which-e-ta, which-e-ta, which-e-ta, wit, was heard everywhere from the reedy marsh, as well as the bushy hill, and even the timber seems to furnish him a home in this region. Winnesheik and Allamakee counties.

(86)—*Icteria virens*. YELLOW-BREASTED CHAT.

This master singer is quite rare in the Oneota valley, only a few were noted. Winnesheik and Allamakee counties.

(87)—*Setophaga ruticilla*. RED START.

Breeds abundantly in both counties. Nests were found some 30 feet from the ground. Winnesheik and Allamakee counties.

(88)—*Galeoscoptis carolinensis.* CAT BIRD.

Breeds very abundantly throughout the valley. Winnesheik and Allamakee counties.

(89)—*Harpoehynchus rufus.* BROWN THRASHER.

A common breeder in both Winnesheik and Allamakee counties.

(90)—*Troglodytes aedon.* HOUSE WREN.

Quite abundant at Decorah, also noted many times on our trip down stream.

(91)—*Cistothorus palustris.* LONG-BILLED MARSH WREN.

Quite common in the marshes about New Albin, also noted in several places along the river. Winnesheik and Allamakee counties.

(92)—*Sitta carolinensis.* NUTHATCH.

This busy bird of the forest was found quite abundant in both Winnesheik and Allamakee counties.

(93)—*Parus atricapillus.* CHICADEE.

Very abundant throughout the range. Winnesheik and Allamakee Co's.

(94)—*Turdus mustelinus.* WOOD THRUSH.

Common in both Winnesheik and Allamakee counties. Young and adults were obtained in both places.

(95)—*Turdus fuscescens.* WILSON'S THRUSH.

Breeds along Canoe river near the junction with the Oneota, where young and adults were obtained. Also noted at other places. Winnesheik and Allamakee counties.

(96)—*Merula migratoria.* ROBIN.

Common throughout the valley but partial to the cultivated portions. Winnesheik and Allamakee counties.

(97)—*Sialia sialia.* BLUE BIRD.

Blue Birds were exceedingly scarce owing to the cold winters of 1894-'95 which threatened to exterminate the race. Only one pair was noted about two and one-half miles south of Decorah, where they had established themselves in a tree and were left unmolested with our best wishes for a successful year at house keeping. Winnesheik county.

(98)—*Passer domesticus.* ENGLISH SPARROW.

Though the last in our list he was by no means the least abundant. He seems to have spread pretty well over the entire area of the Oneota valley, as most farms were provided with a band of these birds. Only the smaller out of the way houses seemed to have been neglected, but judging from the small flocks which were occasionally noted—evidently exploring expeditions—it will not take long until even these will have received their quota of these birds.

DISCUSSIONS.

MR. BROWN thinks it is not always safe to judge the abundance of the Wild Turkey by the tail feathers found in the woods. Nor does it unmistakably indicate the presence of this species to find Turkey feathers, even in remote regions, as many such feathers never had more than a tame Turkey attached to them.

Mr. Law inquires if the other members have found the Louisiana Water-Thrush to be the prevailing form in their localities. In Dallas county, he thought the Water-thrush (*Seiurus moticilla*) to be the most abundant, the other species only a rare visitor. There seems to be some diversity of opinion as to which is the most plentiful in the state, both species having been noted as nesting. These were included in the list of birds of which the Association should make special study the ensuing year.

The fact of the Sharp-shinned Hawk nesting in such abundance in the two counties—Winnesheik and Allamakee—is surprising and brings forth a number of remarks. Mr. Brown suggests that if more thorough search were made it would probably be found nesting in other portions of the state. Mr. Savage can only see one explanation of their scarcity in Henry county, and that is the abundance of the Cooper's Hawk. Mr. Bartsch has the abundance of the Sharp-shinned succeeded by a scarcity of Cooper's, and "tis a poor rule that won't work both ways."

DEATH OF MRS. WALTERS.

THE Angel of Death has entered our midst and taken one of our number. It is with sadness that we announce the death of Mrs. Gus Walters, an active member of the Iowa Ornithological Association. She died at her home at Cedar Falls, Iowa, on July 31st, 1897. Mrs. Walters was an ardent lover of birds and her skillful fingers often helped her husband while at his taxidermical work.

We believe she looked "Though Nature up to Nature's God." She regarded this beautiful world as one of the numberless chambers in a Heavenly Father's mansion, from which death was but a door opening into larger and brighter rooms beyond. She has but gone on before.

RESOLUTIONS.

In view of the loss we have sustained by the decease of our friend and associate, Mrs. Gus Walters, and the still heavier loss sustained by those who

were nearest and dearest to her.

THEREFORE—be it resolved that it is but a just tribute to the memory of the departed to say that in regretting her removal from our midst, we but speak the sentiments of her friends and the Iowa Ornithological Association.

RESOLVED—that we sincerely condole with the family of the deceased and commend them for consolation to Him who orders all things for the best.

RESOLVED—that this testimonial of our sympathy be forwarded to the friends of the departed through the columns of the **IOWA ORNITHOLOGIST**.

J. EUGENE LAW,
MRS. M. A. TRIEM,
MRS. M. L. RAUN.

NOTES AND NEWS.

Mr. Hiram Heaton of Glendale, Ia., made a pleasant call at the editorial den recently. The editor is always glad to entertain any of the ornithological brethren.

On September 3rd, 1897, Mr. J. H. Brown, J. Eugene Law, Chas. R. Keyes and David L. Savage took supper at the hospitable home of George H. Burge, of Mt. Vernon, Iowa. There is no need to say the hour was one of pleasure and profit. Mr. Burge has quite an extensive collection of bird's eggs and mounted birds.

We are sorry to learn that the *Nidologist*, of Alameda, Cal., has been discontinued. The May issue is the last published. The main features, however, will be regularly continued by the same writers as a department of the *Popular Science News*.

Mr. Ernest Irons of Council Bluffs writes that the Least Bittern is a common breeder in Pottawattamie county, building its platform of sticks and straws in the cat-tails and rushes along the margin of swampy lakes. The nests are generally placed a few inches above the water, although I have found some nests with eggs on dry ground near the margin of a lake. The eggs vary in number from three to seven. The usual number is four or five. When first hatched, the young are golden yellow and are covered with soft fluffy down, being, to my mind, prettier during the first three or four days of their existance than they ever are afterward, with the exception possibly of the rich coloring of the adult male.



New books and other publications will be reviewed in this department. Authors wishing publications reviewed should send them to the Editor, who will examine them personally and give them due consideration.

"Citizen Bird"—Scences from bird life in plain english for beginners, by Mable Osgood Wright and Elliott Coues, with one hundred and fifteen illustration by Louis Agassiz Fuertes. New York, The Macmillian company, 1897. Cloth, \$1.50. "Citizen Bird" will do more toward protecting our feathered friends than any work that has yet appeared. It has no equal. Every home should contain a copy.

Grinnell's "Report on the Birds of the Islands of Santa Barbara, San Nicolas and San Clements." A twenty-six page pamphlet, which is a report of the birds recorded during about a month's exploration among the islands last spring (1897). The sixty species treated, are arranged in four seperate lists—the land birds observed in each of the islands and the water birds recorded during the entire trip. It is replete with interesting field notes.

PUBLICATIONS RECEIVED.

Birds, Vol. 2, No. 3, September, 1897.

Fern Bulletin, Vol. 5, No. 3, July, 1897.

Le Naturaliste Canadien, Vol. 24, Nos. 8-10, Aug.-Oct., 1897.

Museum, Vol. 3, No. 10-12, Aug.-Oct., 1297.

Oologist, Vol. 14, Nos. 7-10, July-Oct., 1897.

Osprey, Vol. 1, No. 12, Vol. 2, No. 1, Aug.-Sept., 1897.

Popular Science News, Vol. 31, Nos. 8-10, Aug.-Oct., 1897.

EXCHANGE COLUMN.

TO EXCHANGE—An X. L. 44 cal. sporting shotgun, an Eastman Pocket Pak and a Gem Pow camera $3\frac{1}{4} \times 4\frac{1}{4}$. and a 25 cal. Winchester rifle, fine Iowa sets, or books on ornithology. Write at once. Wilmon Newell, Ames, Iowa.

WANTED—a copy of Jordan's Manual of the Vertebrate Animals of the Northern United States, in good condition, for Steel's Popular Zoology and Woods' Natural History, both new, balance cash. H. M. McLaughlin, 117 w. 11th St., Mason City, Iowa.

FOR SALE or exchange—A fine collection of U. S. and Foreign stamps mounted in a Standard stamp album, also 30 Onion skin approval sheets. Wanted eggs with data in exchange. John J. Skinner, Fayette, Iowa.

WANTED—Swords and firearms, old and new. Can offer egg cabinet, eggs, books, papers and cash. Revolutionary relics also. Make offer for Gt. Blue Heron. A male live Red Fox for sale cheap. A. M. Farmer, 429 High St., Clinton, Mass.

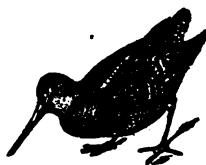
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“White Flyers of the Sea,” by that veteran naturalist and sportsman, Charles Hallock. Prof. W. W. Cooke writes on a new bird of Colorado.

A beautiful photograph of an Osprey's nest on an island in the Pacific Ocean. Frank M. Chapman, the well known naturalist of New York city, writes the Heron Plume fashion. (He writes on Cuba, with photos taken on the island, in an early number.)

Large picture of Snowy Heron, also another pertaining to Mr. Chapman's article. A photograph of a California Ornithologist climbing a giant pine, besides numerous notes from all parts of the country, news items, etc.

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